

FIG. 1

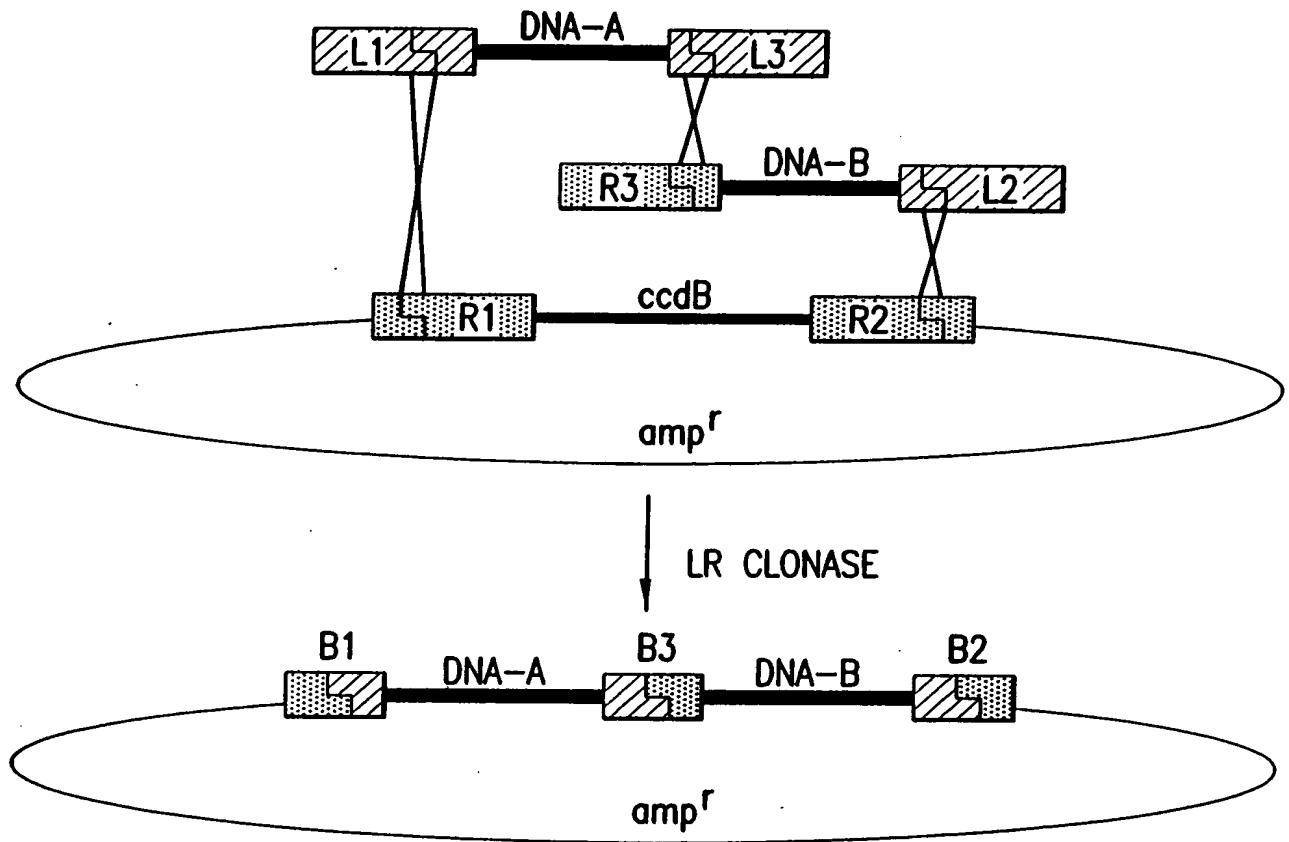


FIG. 2

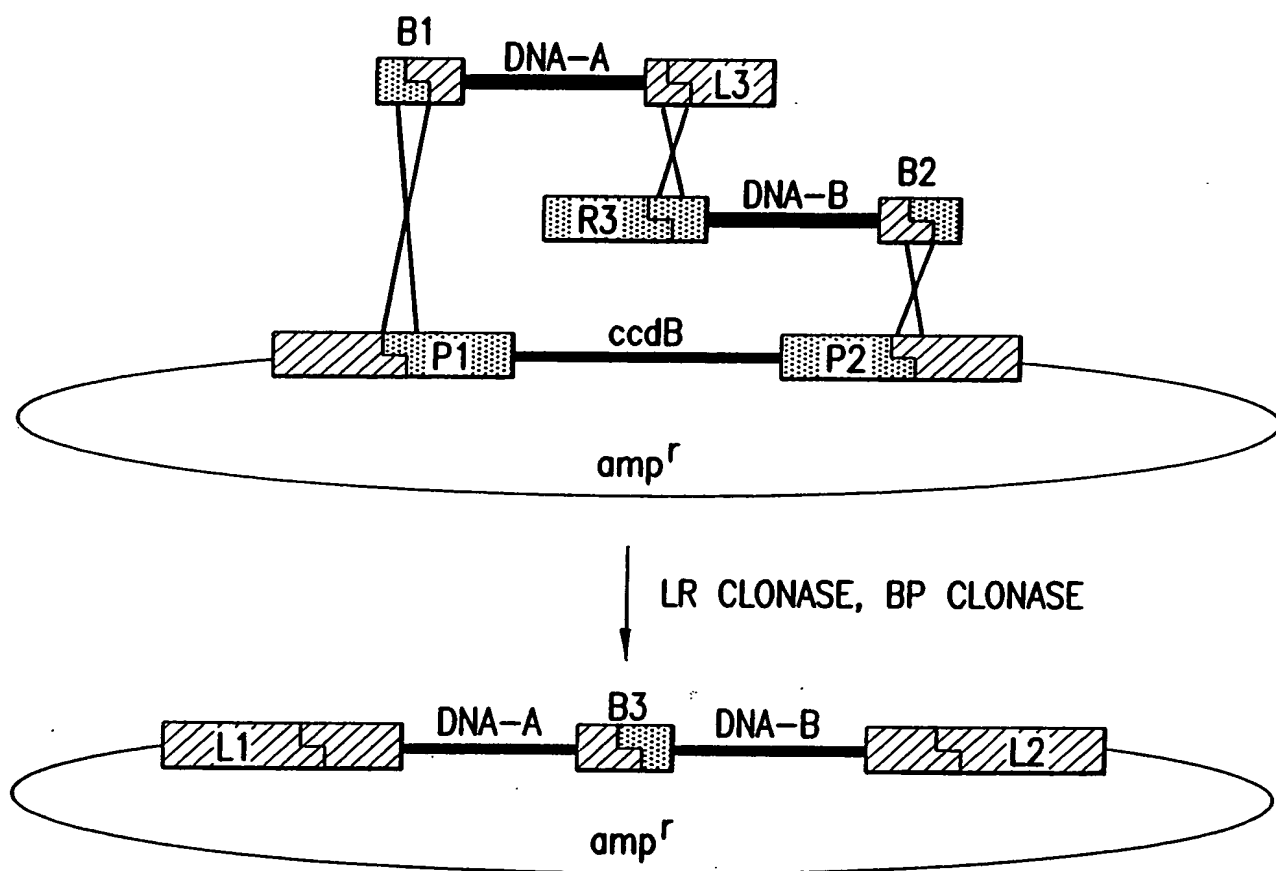


FIG. 3

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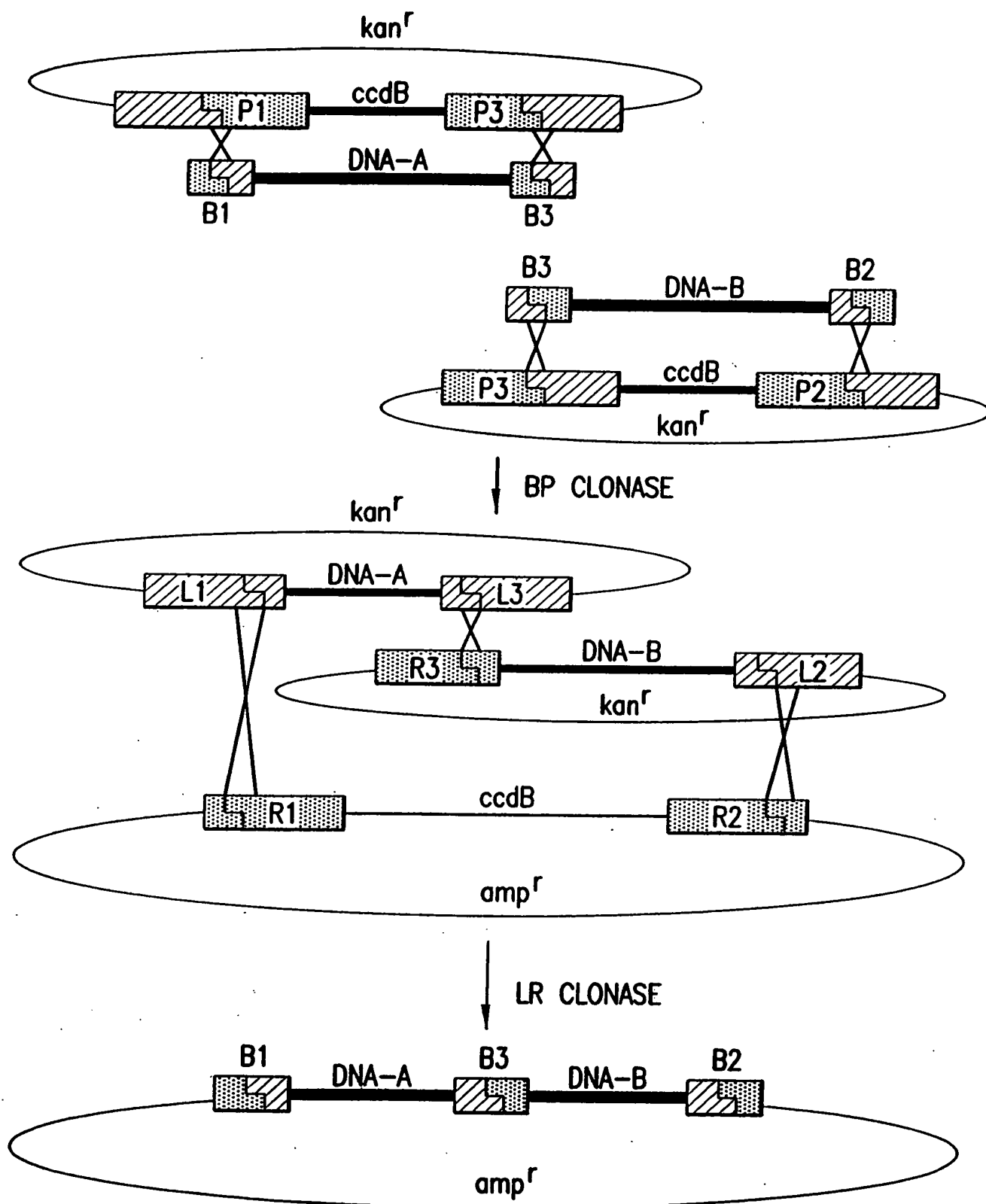


FIG. 4

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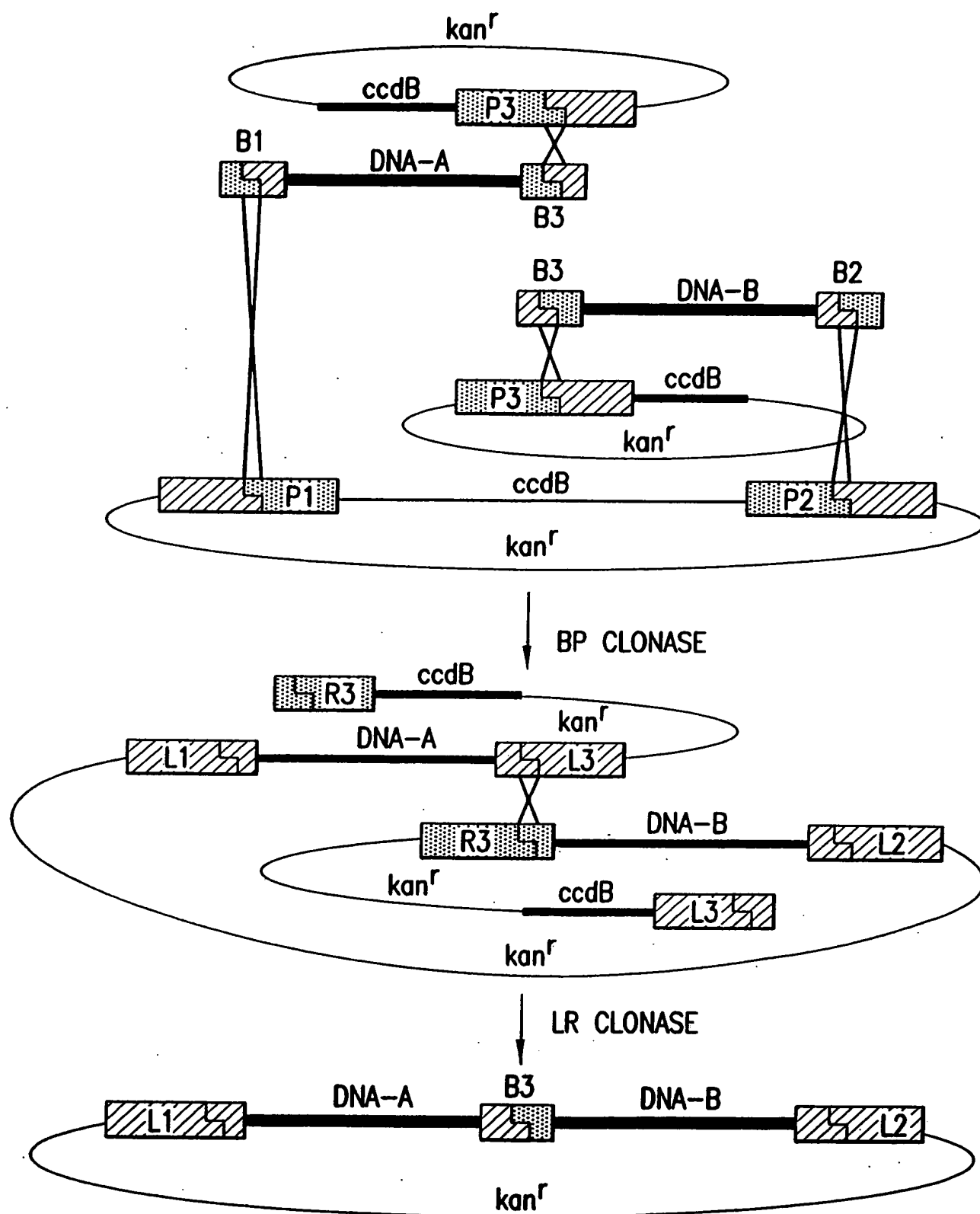


FIG. 5

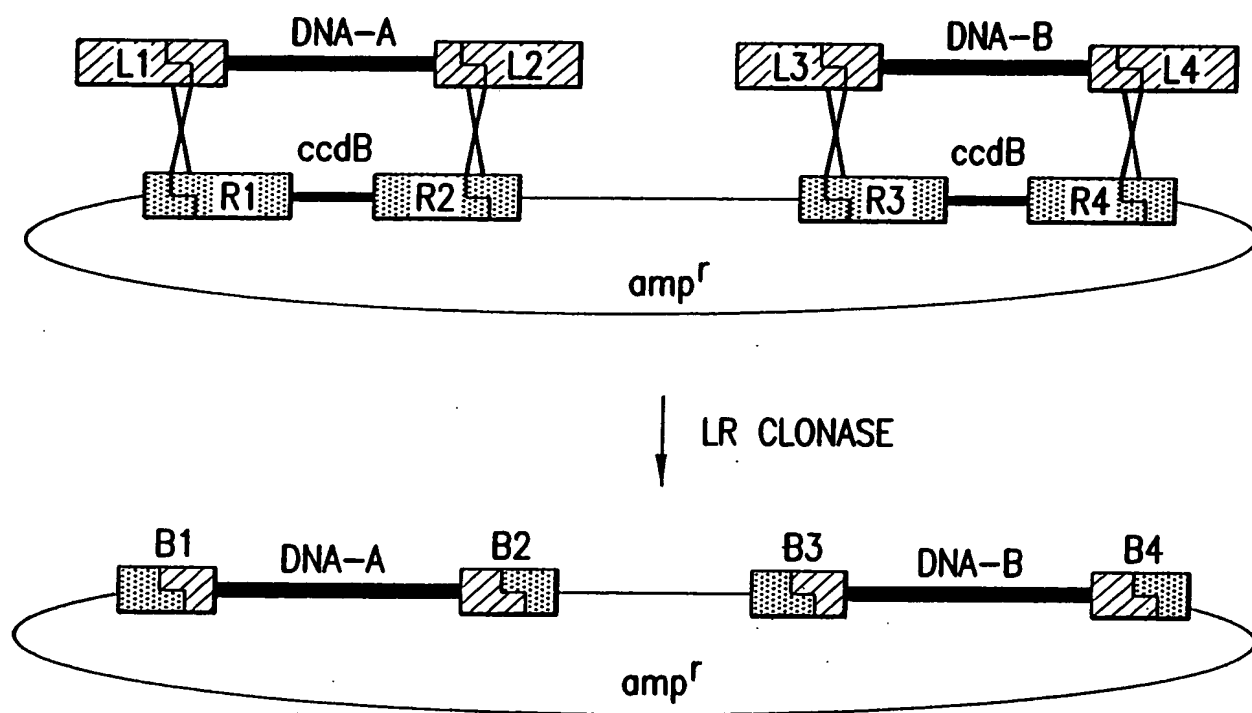


FIG. 6

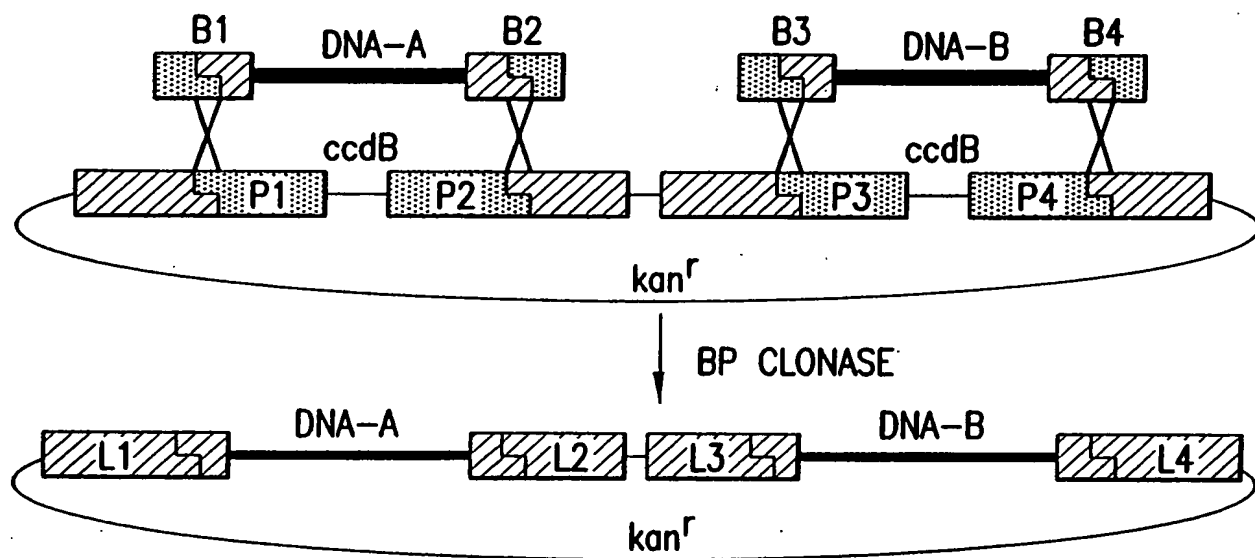


FIG. 7

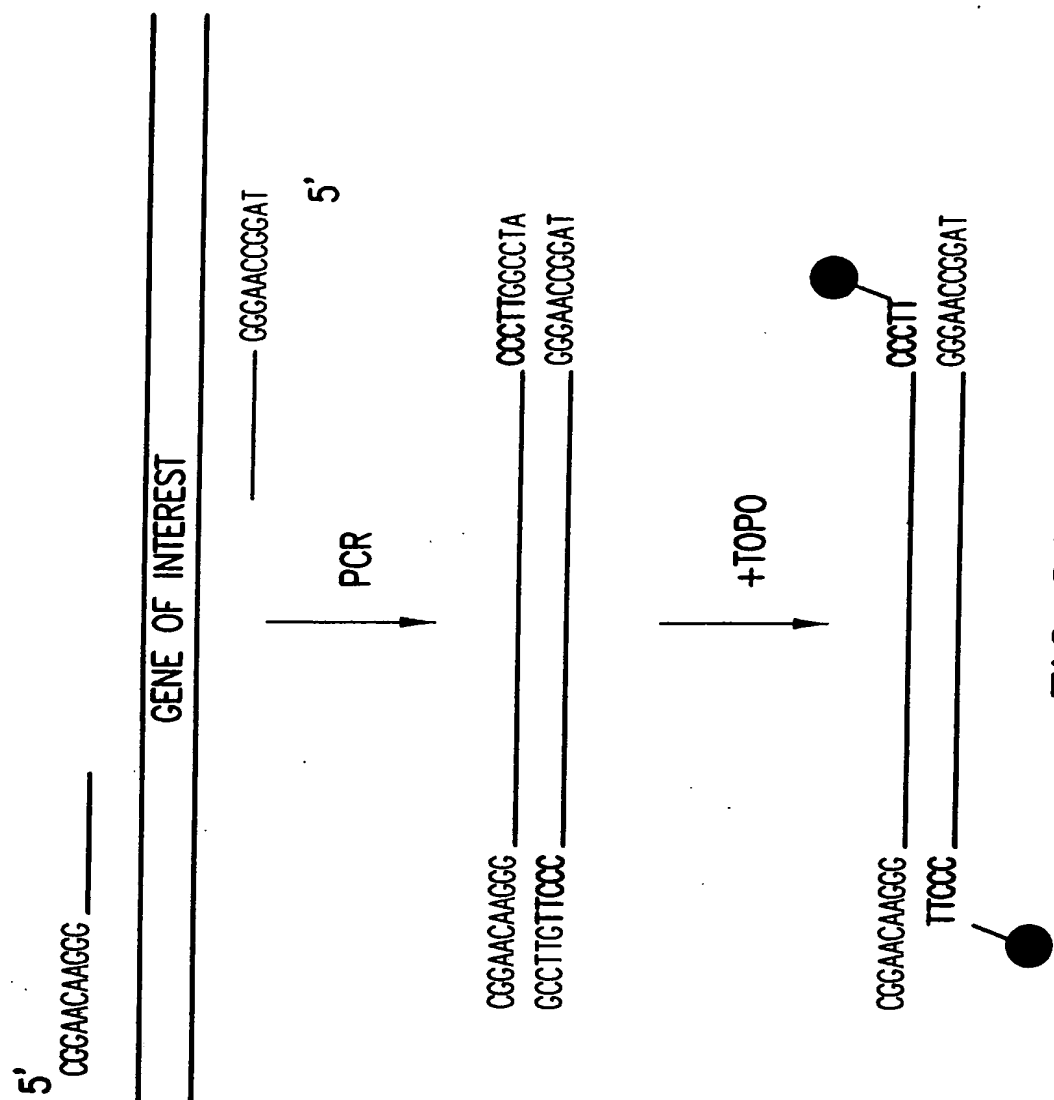
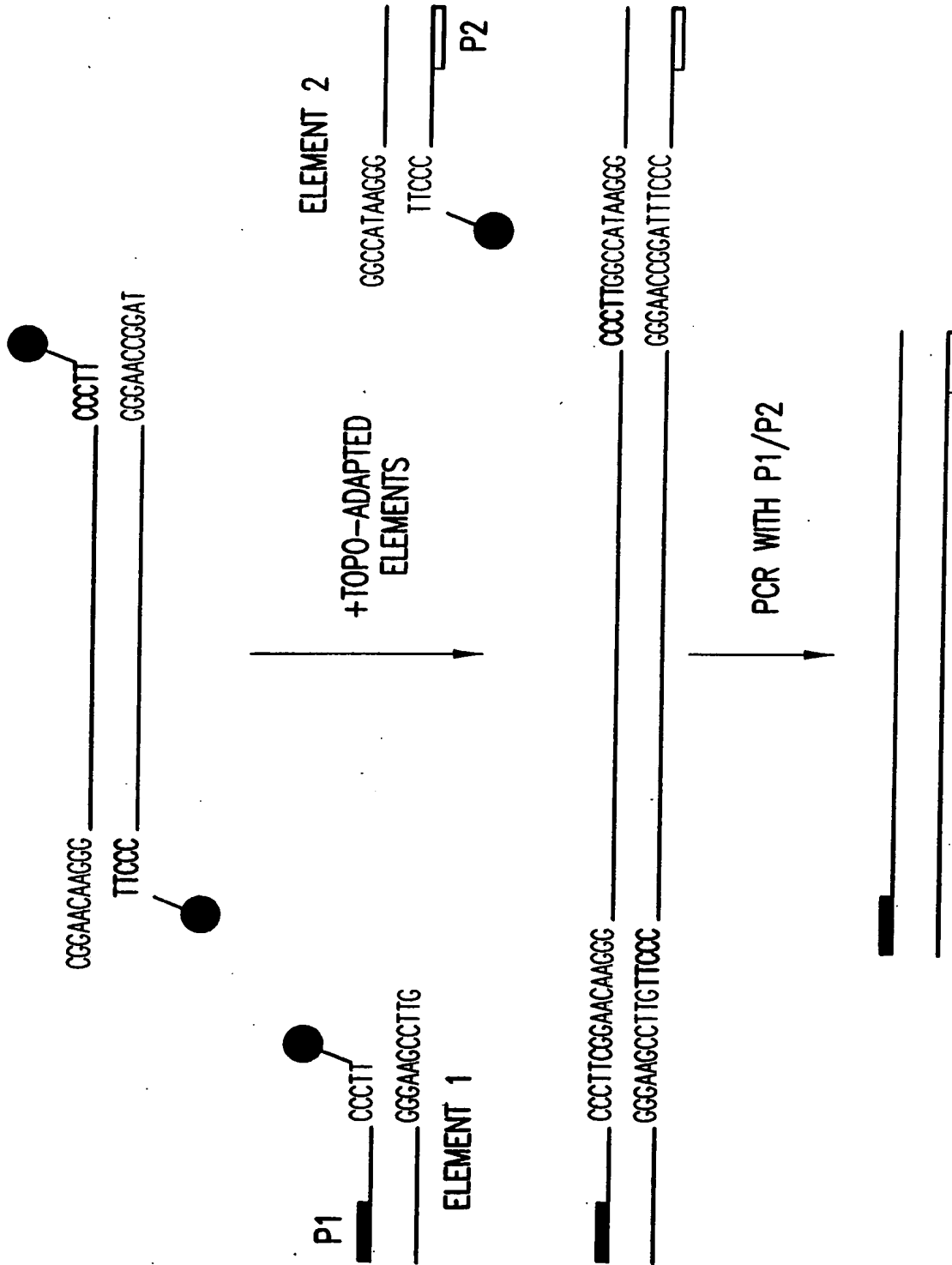


FIG. 8A





**FIG. 8B**

CMV ELEMENT

A. F6945  
 \_\_\_\_\_  
 CCCTT  
 \_\_\_\_\_  
 GGGAAAGCT  
 F7221 (29)

GFP ELEMENT

(30) F7220  
 TCGAAGCG \_\_\_\_\_  
 CCCTT  
 TTCCC \_\_\_\_\_  
 GCGAACCGG  
 F6682 (31)

BGH ELEMENT

(32) F7222  
 GGCCAAGCG \_\_\_\_\_  
 TTCCC  
 F6948

FIG. 9A

B. F6945  
 \_\_\_\_\_  
 CCCTT  
 \_\_\_\_\_  
 GCGAAGCCTTG  
 F8417 (33)

(34) F8418  
 CCGAACAAGCG \_\_\_\_\_  
 CCCTT  
 TTCCC \_\_\_\_\_  
 GCGAACCGG  
 F6682 (35)

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(36) F7222  
 GGCCAAGCG \_\_\_\_\_  
 TTCCC  
 F6948

FIG. 9B

C. F6945  
 \_\_\_\_\_  
 CCCTT  
 \_\_\_\_\_  
 GCGAAGCCTTG  
 F8417 (37)

(38) F8418  
 CCGAACAAGCG \_\_\_\_\_  
 CCCTT  
 TTCCC \_\_\_\_\_  
 GCGAACCGGAT  
 F8420 (39)

(40) F8419  
 GGCCTAAAGCG \_\_\_\_\_  
 TTCCC  
 F6948

FIG. 9C

TABLE 1

Primer name	F#	Sequence (5'→ 3')	SEQ ID NO:
MTH1	10779	TATGTATCATACACATACGATTTAGGT	1
MTH2	10780	ACCGCCTCTCCCCGCGCGTT	2
GAL4r2	12667	GTTCCGAAGGGGGCGATACAGTCAACTGTCTTTG	3
MTH5	12505	TTGGCCAAGGGTATCTAGAAGCTTCTGCAGACGCGT	4
VP16r2	12668	GTTCCGAAGGGCCACGTA CTGTC AATTCCAAG	5
SV40pAf	12016	GGCCAAAAGGGAAGTTGTTTATTGCAGCTTATAATG	6
SV40pAr	561	CTCTGACTTGAGCGTCGATTTT	7
p53f2	12669	CGGAACAAGGGGAATTCCTGTCAACGAGACC	8
SVTf2	12670	CGGAACAAGGGGAATTCGGGGATCTGGAATTC	9
CMVr2	7221	TCGAAAGGGTCGAGGTGACCTGCAGCTG	10
CMVf	6945	AATTCACATTGATTATTGAGTAGTTA	11
GFP-Xhof	7220	TCGAAAGGGTAATGGCCAGCAAAGGAGAAG	12
GFP-Notr	6682	GGCCAAGGGTTTGTAGAGCTCATCCAT	13
BGHf2	7222	GGCCAAGGGTCTGAATGGGGCCGCATAGT	14
BGHr	6948	AAGCCATAGAGCCCGGGCCA	15
CMVr3	8417	GTTCCGAAGGGTCGAGGTGACCTGCAGCTG	16
GFPf3	8418	CGGAACAAGGGATGGCCAGCAAAGGAGAAG	17
GFPPr3	8420	TAGGCCAAGGGTTTGTAGAGCTCATCCATGC	18
BGHf3	8419	GGCCTAAAGGGTGAATGGGGCCGCATAGT	19
T7top	9304	GAAGGAGTAATAAGACTCACTATAGGGAGCCACCATGGGCCCTTCGGAAC	20
T7bottom	9305	GTTCCGAAGGGCCCATGGTGGCTCCCTATAGTGAGTCGTATTACTCCTTC	21
T7amp	9306	GAAGGAGTAATAAGACTCACT	22
T3top	9661	GGCCTAAAGGGTCCCTTTAGTGAGGGTTAATTGCGCGC	23
T3bottom	9662	GCGCGCAATTAACCCCTCACTAAAGGGACCCCTTTAGGCC	24
lacZf2	10632	CGGAACAAGGGATGATAGATCCCGTGGTTTACA	25
lacZ1k2	10770	TAGGCCAAGGGGACCATTTTCAATCCGCACCT	26
lacZ2k2	10771	TAGGCCAAGGGGAGGCACTTCACCGCTTGCCA	27
lacZ3k2	10772	TAGGCCAAGGGTTTGACACCAAGCAACTGGTA	28

FIG. 9D

SAMPLE #	GAL4+pA	VP16+pA	pGene/lacZ	GAL4+p53+pA	VP16+T+pA	p53-VP16
1			0.26 $\mu$ g	p0.37 $\mu$ g	p0.37 $\mu$ g	
2			0.4 $\mu$ g	p0.3 $\mu$ g	p0.3 $\mu$ g	
3			0.4 $\mu$ g			p0.6 $\mu$ g
4			0.4 $\mu$ g	10.3 $\mu$ g	10.3 $\mu$ g	
5		10.3 $\mu$ g	0.4 $\mu$ g	10.3 $\mu$ g		
6	10.3 $\mu$ g		0.4 $\mu$ g		10.3 $\mu$ g	
7			0.4 $\mu$ g	4.5 $\mu$ l PCR	4.5 $\mu$ l PCR	
8		4.5 $\mu$ l PCR	0.4 $\mu$ g	4.5 $\mu$ l PCR		
9	4.5 $\mu$ l PCR		0.4 $\mu$ g		4.5 $\mu$ l PCR	

FIG. 10A

SAMPLE #	LacZ activity
1	240000
2	140000
3	1800000
4	1400000
5	54000
6	80000
7	320000
8	12000
9	42000

MAMMALIAN TWO-HYBRID

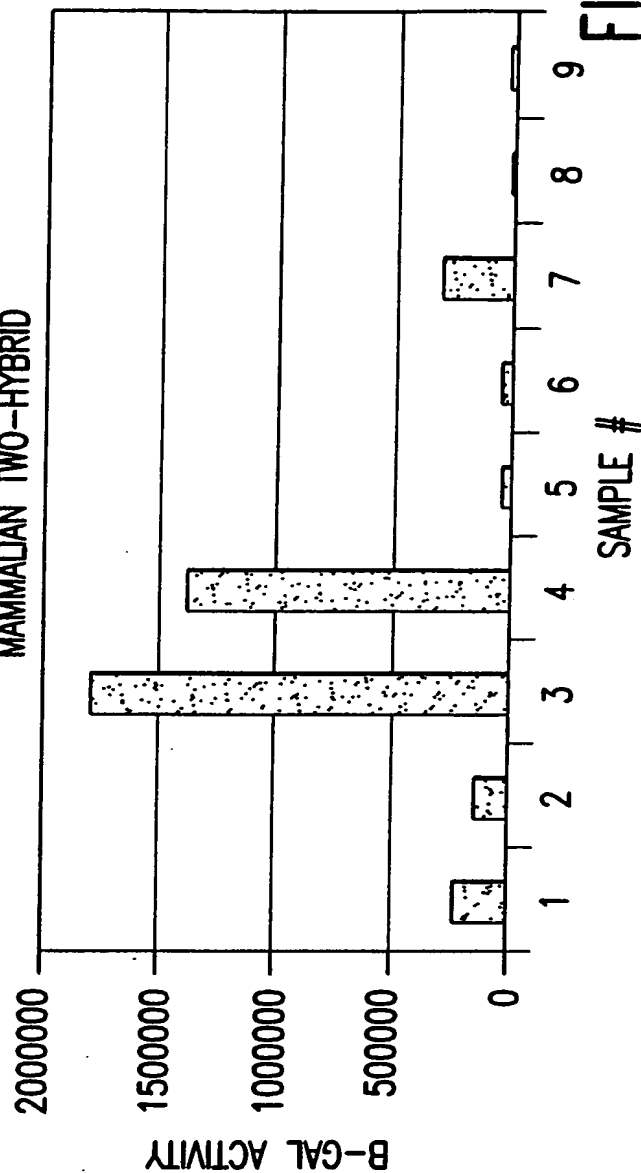


FIG. 10B

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FIG. 11A

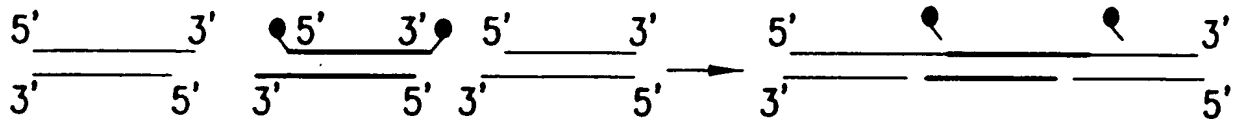


FIG. 11B

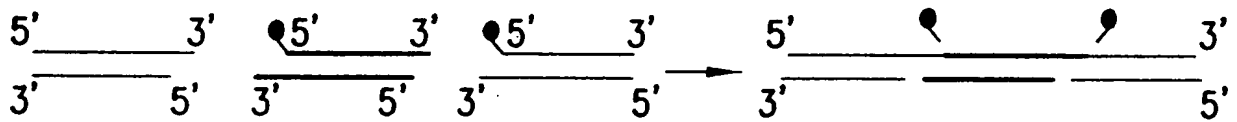


FIG. 11C

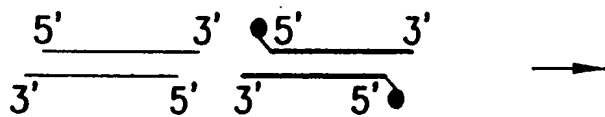


FIG. 11D

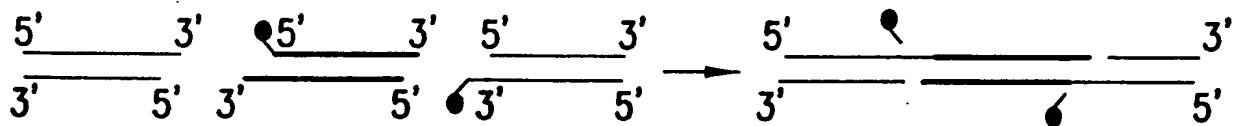


FIG. 11E

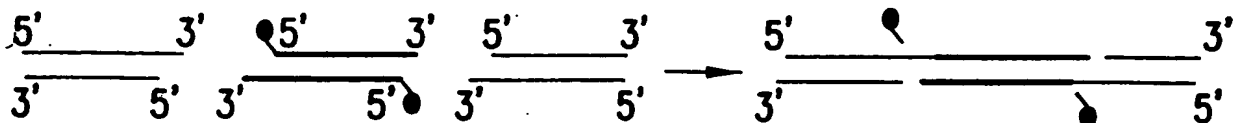


FIG. 11F



FIG. 12A



FIG. 12B



FIG. 12C

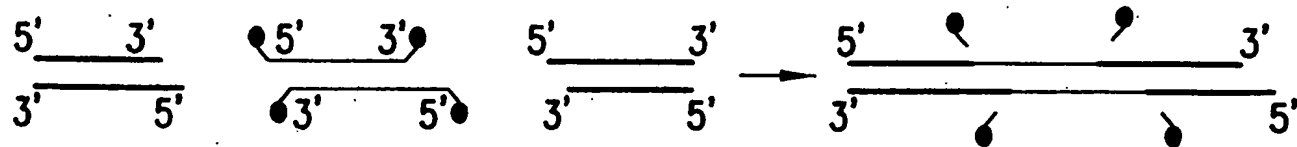


FIG. 12D



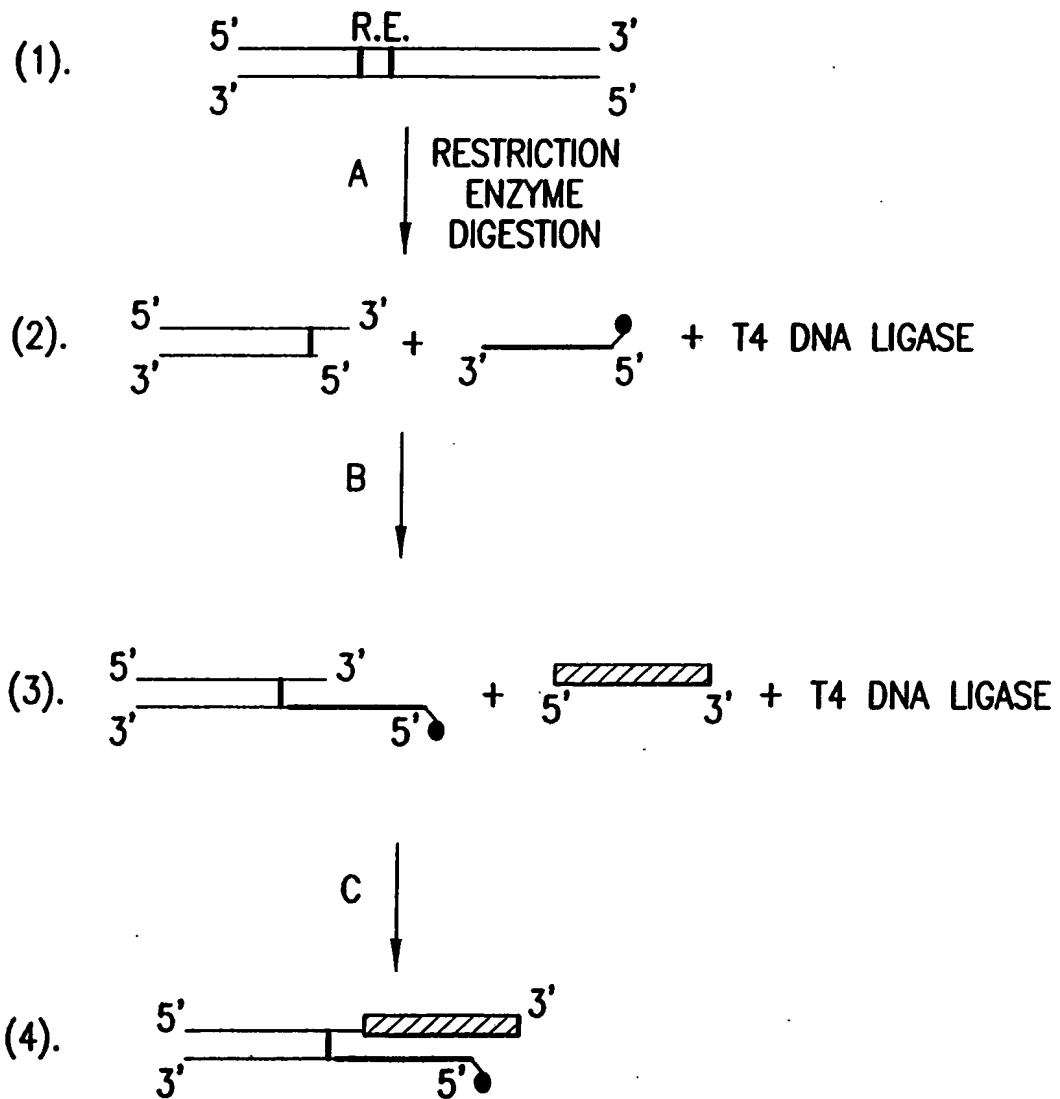


FIG. 14



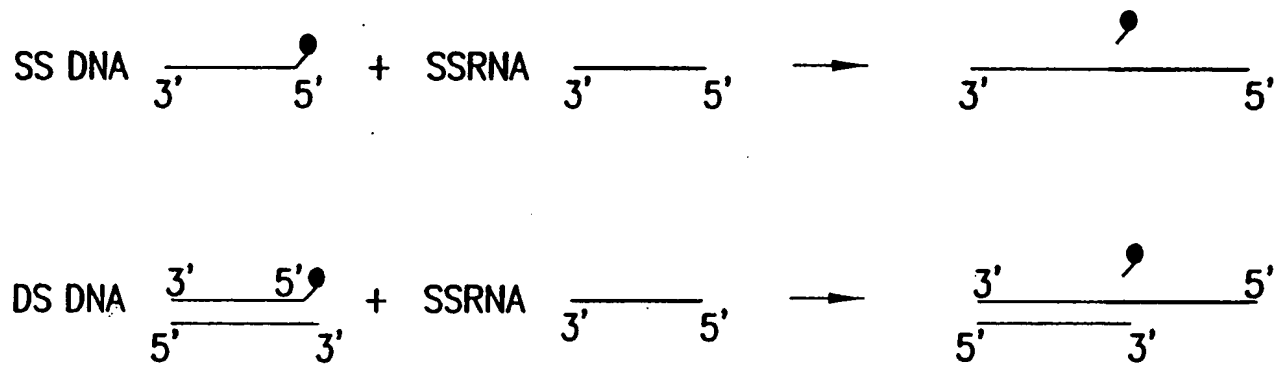


FIG. 15

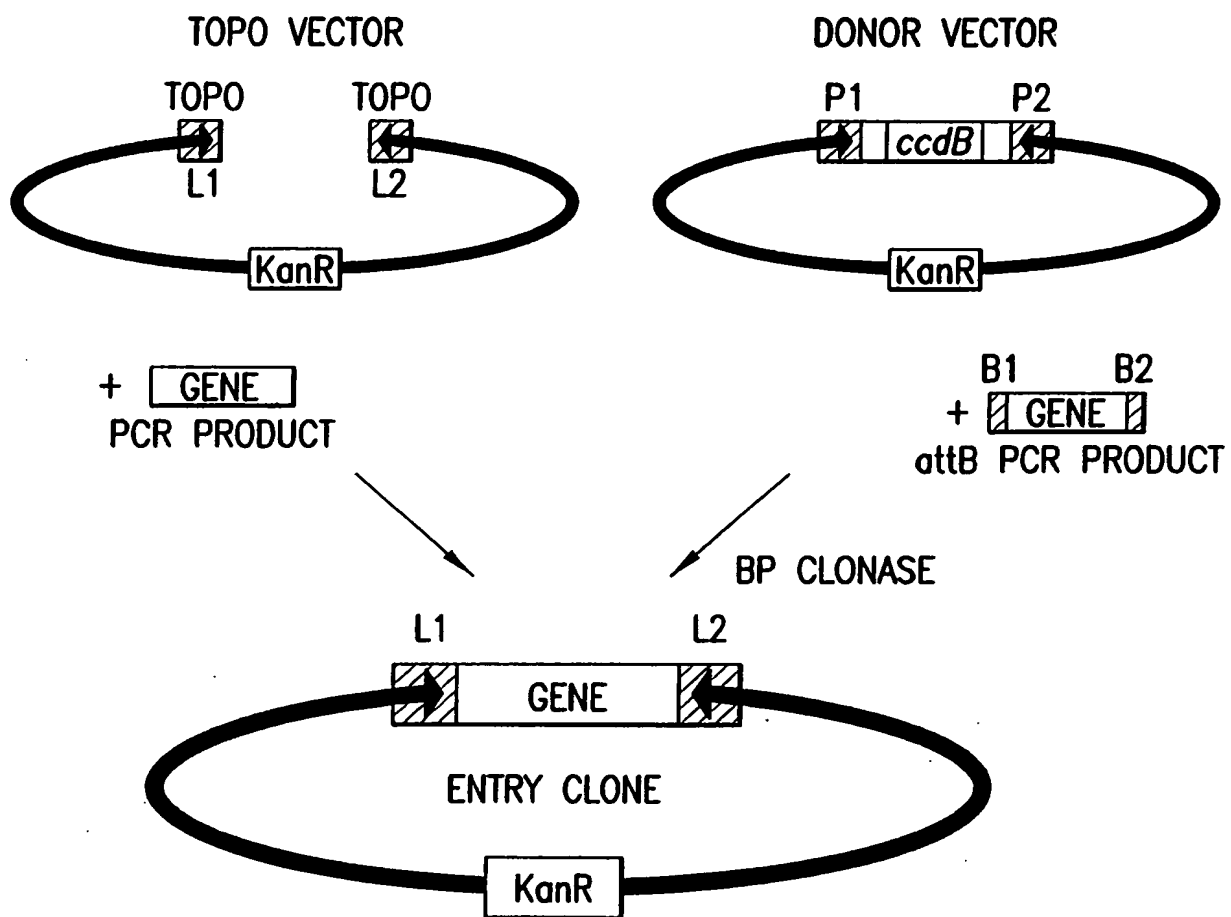


FIG. 16

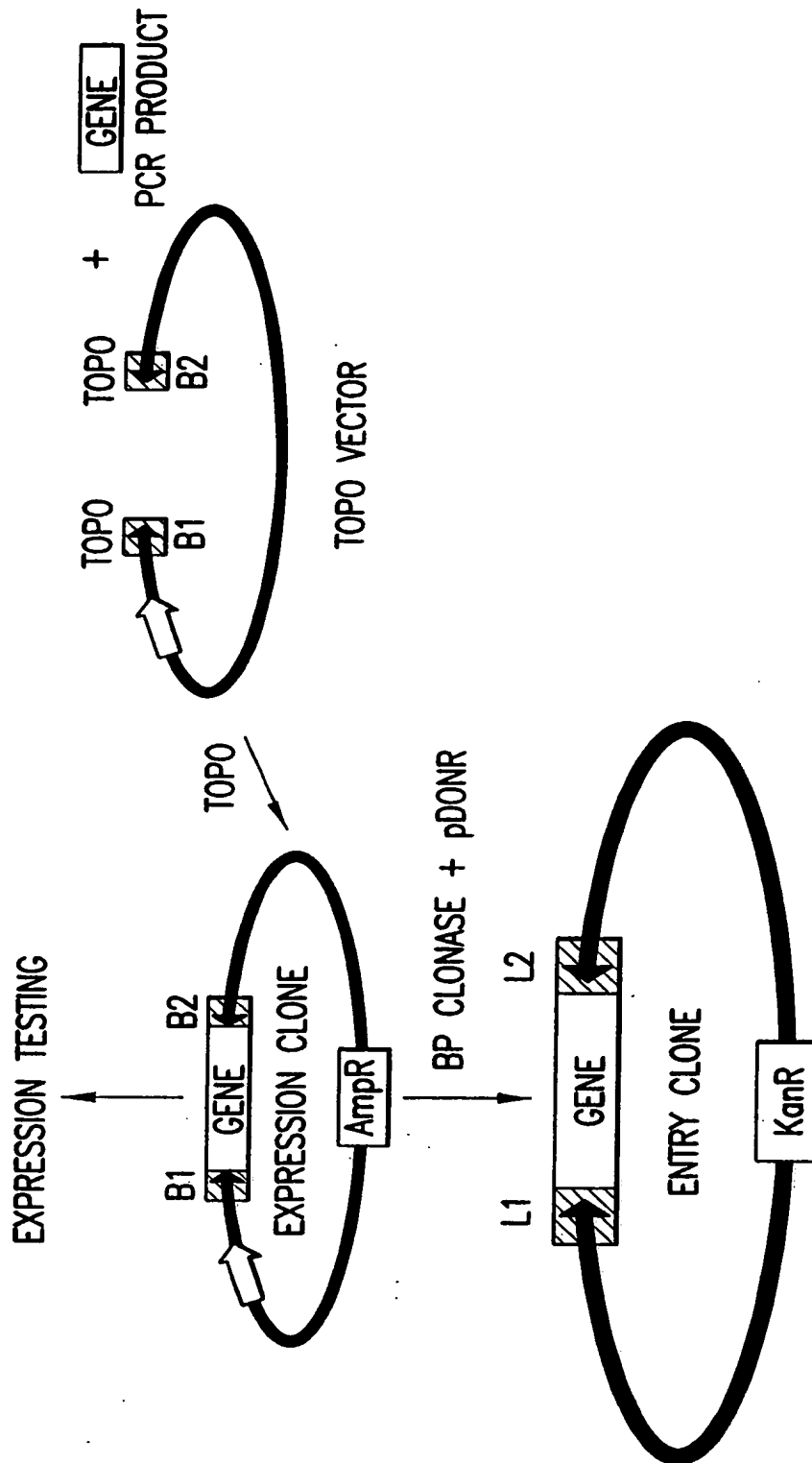


FIG.17

MCS FOR pcDNAGW-DT(sc) AND pENTR-DT(sc)



L	Y	K	K	A	G	S	A	A	A		G	R	A	D	P	A	F	L	Y	K	V			
...	TTG	TAC	AAA	AAA	GCA	GCC	TCC	GCG	GCC	GCC	GTA	CTC	GAG	AAA	GCG	GCG	GAC	CCA	GCT	TTC	TTG	TAC	AAA	GTG
	<u>BsrG I</u>							<u>Not I</u>			<u>Xho I</u>		<u>Asc I</u>							<u>BsrG I</u>				
																								
	AttL1/B1										AttL2/B2													

FIG. 18

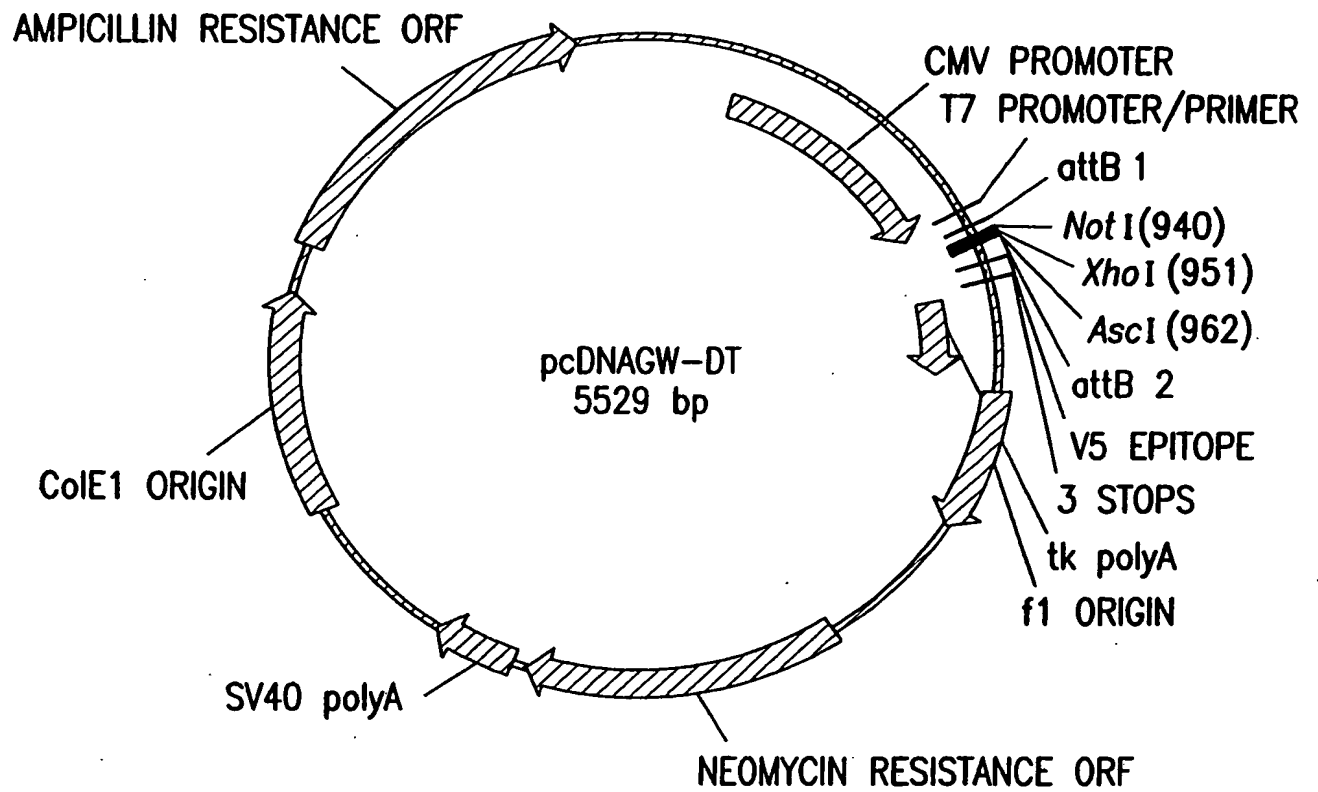


FIG. 19

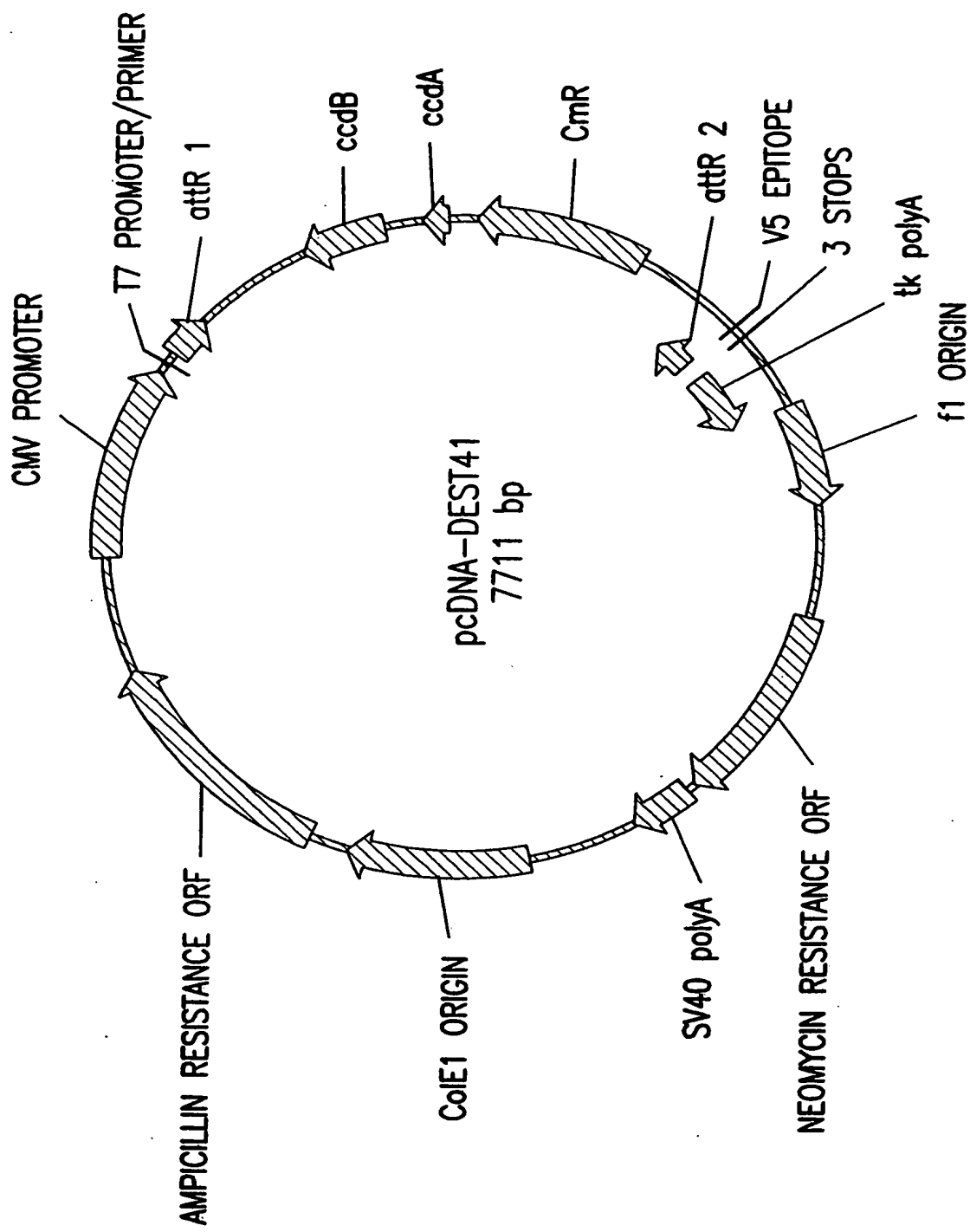


FIG. 20

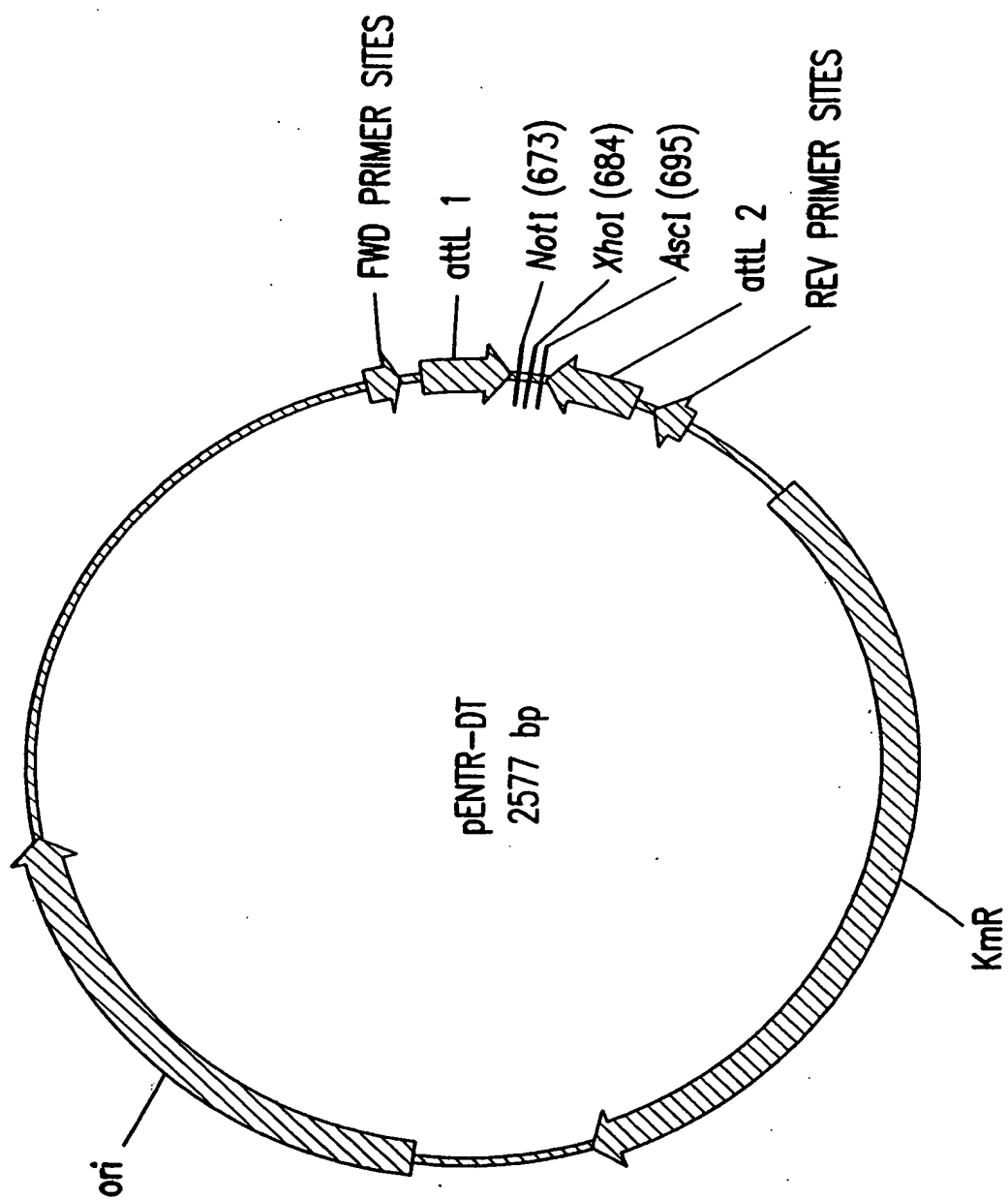


FIG. 21

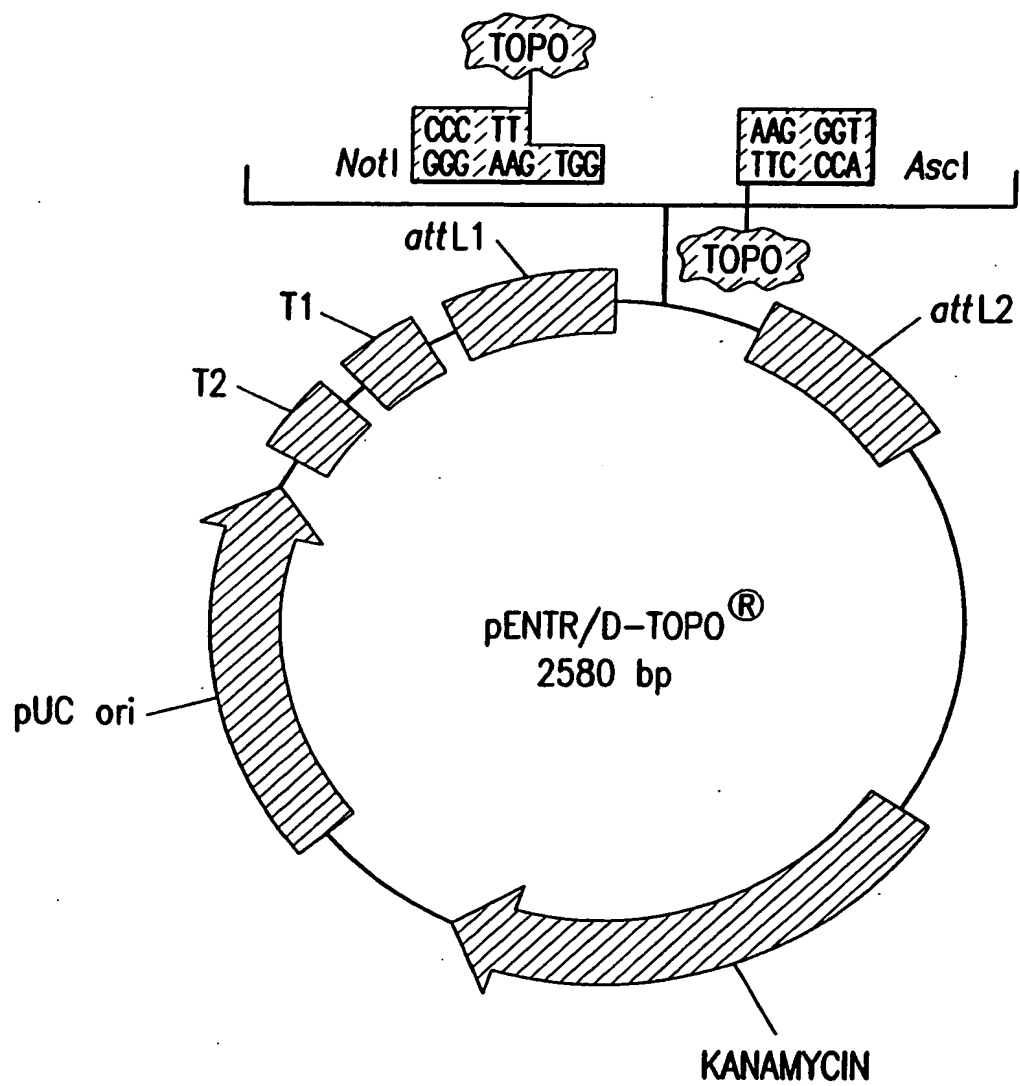


FIG. 22A



```

1  ctttcctgcg ttatcccctg attctgtgga taaccgtatt accgcctttg agtgagctga
61  taccgctcgc cgcagccgaa cgaccgagcg cagcgagtca gtgagcgagg aagcggaaga
121 gcgccaata cgcaaaccgc ctctcccgc gcgttgccg attcattaat gcagctggca
181 cgacaggttt cccgactgga aagcgggcag tgagcgcaac gcaattaata cgcgtaccgc
241 tagccaggaa gagtttgtag aaacgcaaaa aggccatccg tcaggatggc cttctgctta
301 gtttgatgcc tggcagttta tggcgggctt cctgcccgc accctccggg ccgttgcttc
361 acaacgttca aatccgctcc cggcggtatt gtcctactca ggagagcggt caccgacaaa
421 caacagataa aacgaaaggc ccagtcttcc gactgagcct ttcgttttat ttgatgcctg
481 gcagttccct actctcgcgt taacgctagc atggatgttt tcccagtcac gacgttgtaa
541 aacgacggcc agtcttaagc tcgggcccc aataatgatt ttattttgac tgatagtgc
601 ctgttcgttg caacaaattg atgagcaatg cttttttata atgccaaact tgtacaaaaa
661 agcaggctcc gcggccgccc cttcaccatg nnnnnnnnna aggggtggcg cgccgacca
721 gctttcttgt acaaagttgg cattataaga aagcattgct tatcaatttg ttgcaacgaa
781 caggtcacta tcagtcaaaa taaaatcatt atttgccatc cagctgatat cccctatagt
841 gagtcgtatt acatggtcat agctgtttcc tggcagctct ggcccgtgtc tcaaaatctc
901 tgatgttaca ttgcacaaga taaaaatata tcatcatgaa caataaaaact gtctgcttac
961 ataaacagta atacaagggg tgttatgagc catattcaac gggaaacgtc gaggccgcga
1021 ttaaattcca acatggatgc tgatttatat gggataaaat gggctcgcga taatgtcggg
1081 caatcaggtg cgacaatcta tcgcttgat ggaagcccg atgcgccaga gttgtttctg
1141 aaacatggca aaggtagcgt tgccaatgat gttacagatg agatggtcag actaaactgg
1201 ctgacggaat ttatgcctct tccgaccatc aagcatttta tccgtactcc tgatgatgca
1261 tggttactca ccactgcat ccccgaaaa acagcattcc aggtattaga agaatacct
1321 gattcaggtg aaaaatattg tgatgcgctg gcagtgttcc tgcgccggtt gcattcgatt
1381 cctgtttgta attgtccttt taacagcgat cgcgtatttc gtctcgctca ggcgaatca
1441 cgaatgaata acggtttggt tgatgcgagt gattttgatg acgagcgtaa tggctggcct
1501 gttgaacaag tctggaaaga aatgcataaa cttttgccat tctaccgga ttcagtcgtc
1561 actcatggtg atttctcact tgataacctt attttgacg aggggaaatt aataggttgt
1621 attgatgttg gacgagtcgg aatcgcagac cgataccagg atcttgccat cctatggaac
1681 tgcctcgggt agttttctcc ttcattacag aaacggcttt ttcaaaaata tggattgat
1741 aatcctgata tgaataaatt gcagtttcat ttgatgctcg atgagttttt ctaatcagaa
1801 ttggttaatt gggtgtaaca ctggcagagc attacgtga cttgacggga cggcgcaagc
1861 tcatgaccaa aatcccttaa cgtgagttac gcgtcgttcc actgagcgtc agaccccgta
1921 gaaaagatca aaggatcttc ttgagatcct tttttctgc gcgtaatctg ctgcttgcaa
1981 acaaaaaaac caccgctacc agcgggtggt tgtttgccg atcaagagct accaactctt
2041 tttccgaagg taactggctt cagcagagcg cagataccaa atactgtcct tctagtgtag
2101 ccgtagttag gccaccactt caagaactct gtagcaccgc ctacatacct cgctctgcta
2161 atcctgttac cagtggctgc tgccagtggc gataagtcgt gtcttaccgg gttggactca
2221 agacgatagt taccggataa ggcgcagcg tgggctgaa cggggggttc gtgcacacag
2281 cccagcttgg agcgaacgac ctacaccgaa ctgagatacc tacagcgtga gcattgagaa
2341 agcggccacgc ttcccgaagg gagaaaggcg gacaggtatc cggtaagcgg cagggtcgga
2401 acaggagagc gcacgaggga gcttccaggg ggaacgcct ggtatcttta tagtctgtc
2461 gggtttcgcc acctctgact tgagcgtcga tttttgtgat gctcgtcagg ggggcggagc
2521 ctatggaaaa acgccagcaa cgcggccttt ttacggttcc tggccttttg ctggcctttt
2581 gctcacatgt t

```

FIG.22B

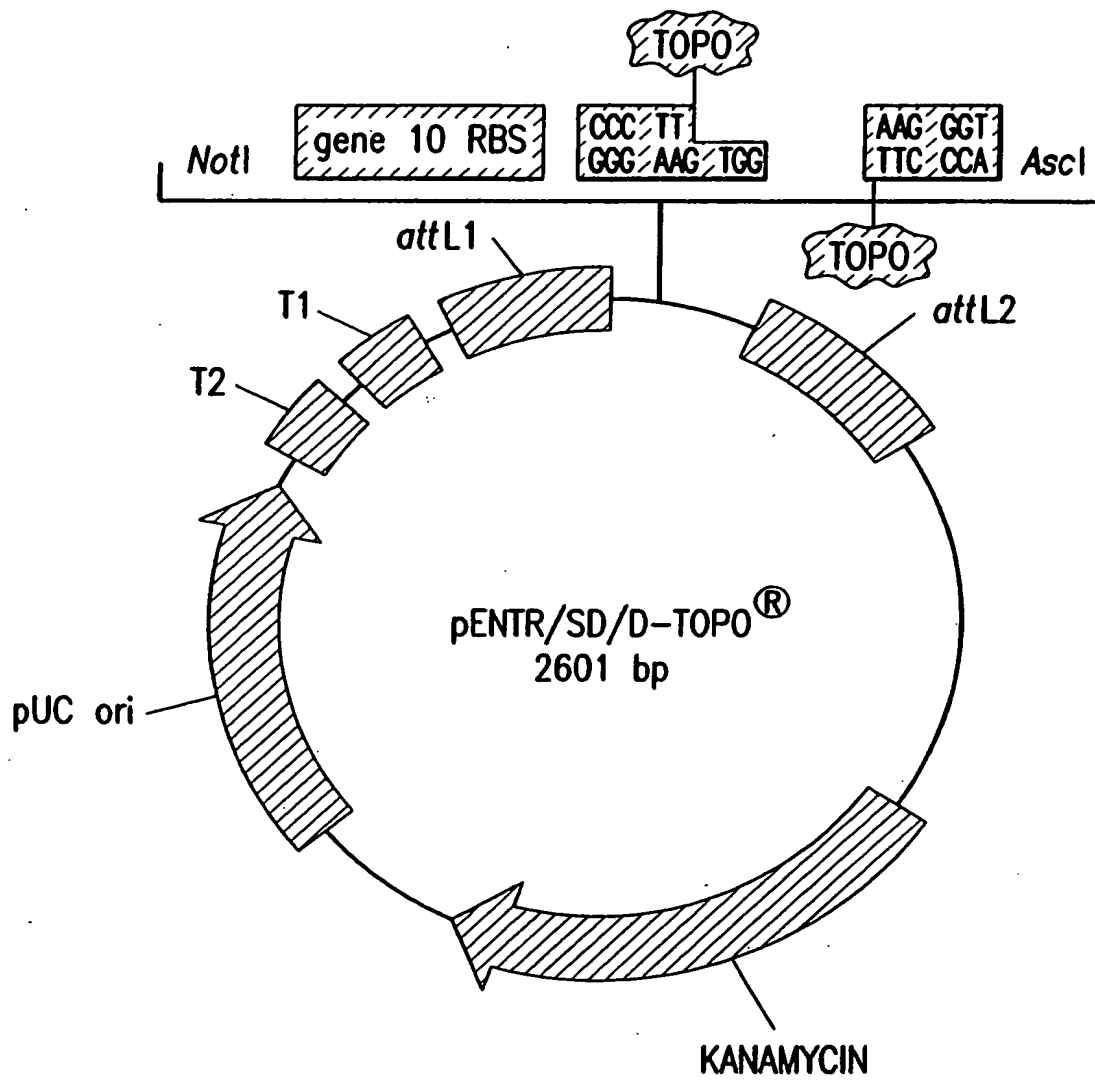


FIG. 23A

```

1 ctttcctgcg ttatcccctg attctgtgga taaccgtatt accgcctttg agtgagctga
61 taccgctcgc cgcagccgaa cgaccgagcg cagcgagtca gtgagcgagg aagcggaaga
121 gcgccaata cgcaaaccgc ctctcccgc gcgttgccg attcattaat gcagctggca
181 cgacaggttt cccgactgga aagcgggcag tgagcgcaac gcaattaata cgcgtaccgc
241 tagccaggaa gagttttag aaacgcaaaa aggccatccg tcaggatggc cttctgctta
301 gtttgatgcc tggcagttta tggcgggct cctgcccgc accctccggg ccgttgcttc
361 acaacgttca aatccgctcc cggcggattt gtcctactca ggagagcgtt caccgacaaa
421 caacagataa aacgaaaggc ccagtcttcc gactgagcct ttcgttttat ttgatgcctg
481 gcagttccct actctcgcgt taacgctagc atggatgttt tccagtcac gacgttgtaa
541 aacgacggcc agtcttaagc tcgggcccc aataatgatt ttattttgac tgatagtac
601 ctgttcgttg caacaaattg atgagcaatg cttttttata atgccaactt tgtacaaaaa
661 agcaggctcc gcggccgcct tgtttaactt taagaaggag cccttcaccn nnnnnaaggg
721 tgggcgcgcc gaccagctt tcttgtaaa agttggcatt ataagaaagc attgcttctc
781 aatttggtgc aacgaacagg tcaactatcag tcaaaataaa atcattattt gccatccagc
841 tgatatcccc tatagttagt cgtattacat ggctatagct gtttcctggc agctctggcc
901 cgtgtctcaa aatctctgat gttacattgc acaagataaa aatatatcat catgaacaat
961 aaaactgtct gcttacataa acagtaatac aaggggtgtt atgagccata ttcaacggga
1021 aacgtcgagg ccgcgattaa attccaacat ggatgctgat ttatatgggt ataaatgggc
1081 tcgcgataat gtcgggcaat caggtgcgac aatctatcgc ttgtatggga agcccgatgc
1141 gccagagttg tttctgaaac atggcaaagg tagcgttgcc aatgatgtta cagatgagat
1201 ggtcagacta aactggctga cggaatttat gcctcttccg accatcaagc attttatccg
1261 tactcctgat gatgcatggt tactcaccac tgcgatcccc ggaaaaacag cattccaggc
1321 attagaagaa tatcctgatt caggtgaaaa tattgttgat gcgctggcag tgttcctgcg
1381 ccggttgcat tcgattcctg tttgtaattg tccttttaac agcgatcgcg tatttcgtct
1441 cgctcaggcg caatcacgaa tgaataacgg tttggttgat gcgagtgatt ttgatgacga
1501 gcgtaatggc tggcctgttg aacaagtctg gaaagaaatg cataaacttt tgccattctc
1561 accggattca gtcgtcactc atggtgattt ctacttgat aacctatttt ttgacgaggg
1621 gaaattaata gggtgtattg atggtggacg agtcggaatc gcagaccgat accaggatct
1681 tgccatccta tggaactgcc tcggtgagtt ttctccttca ttacagaaac ggctttttca
1741 aaaatatggt attgataatc ctgatatgaa taaattgcag tttcatttga tgctcgatga
1801 gtttttctaa tcagaattgg ttaattggtt gtaacactgg cagagcatta cgctgacttg
1861 acgggacggc gcaagctcat gaccaaatac ccttaacgtg agttacgcgt cgttccactg
1921 agcgtcagac cccgtagaaa agatcaaagg atcttcttga gatccttttt ttctgcgcgt
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2041 agagctacca actctttttc cgaaggtaac tggcttcagc agagcgaga taccaaatac
2101 tgtccttcta gtgtagccgt agttaggcca ccacttcaag aactctgtag caccgcctac
2161 atacctcgct ctgctaacc tgttaccagt ggctgctgcc agtggcgata agtcgtgtct
2221 taccgggttg gactcaagac gatagttacc ggataaggcg cagcggtcgg gctgaacggg
2281 gggttcgtgc acacagccca gcttggagcg aacgacctac accgaactga gatacctaga
2341 gcgtgagcat tgagaaagcg ccacgcttcc cgaagggaga aaggcggaca ggtatccggt
2401 aagcggcagg gtcggaacag gagagcgcac gagggagctt ccagggggaa acgcctggta
2461 tctttatagt cctgtcgggt ttcgccacct ctgacttgag cgtcgatttt tgtgatgctc
2521 gtcagggggg cggagcctat ggaaaaacgc cagcaacgcg gcctttttac ggttcctggc
2581 cttttgctgg cttttgctc acatggtt

```

FIG.23B

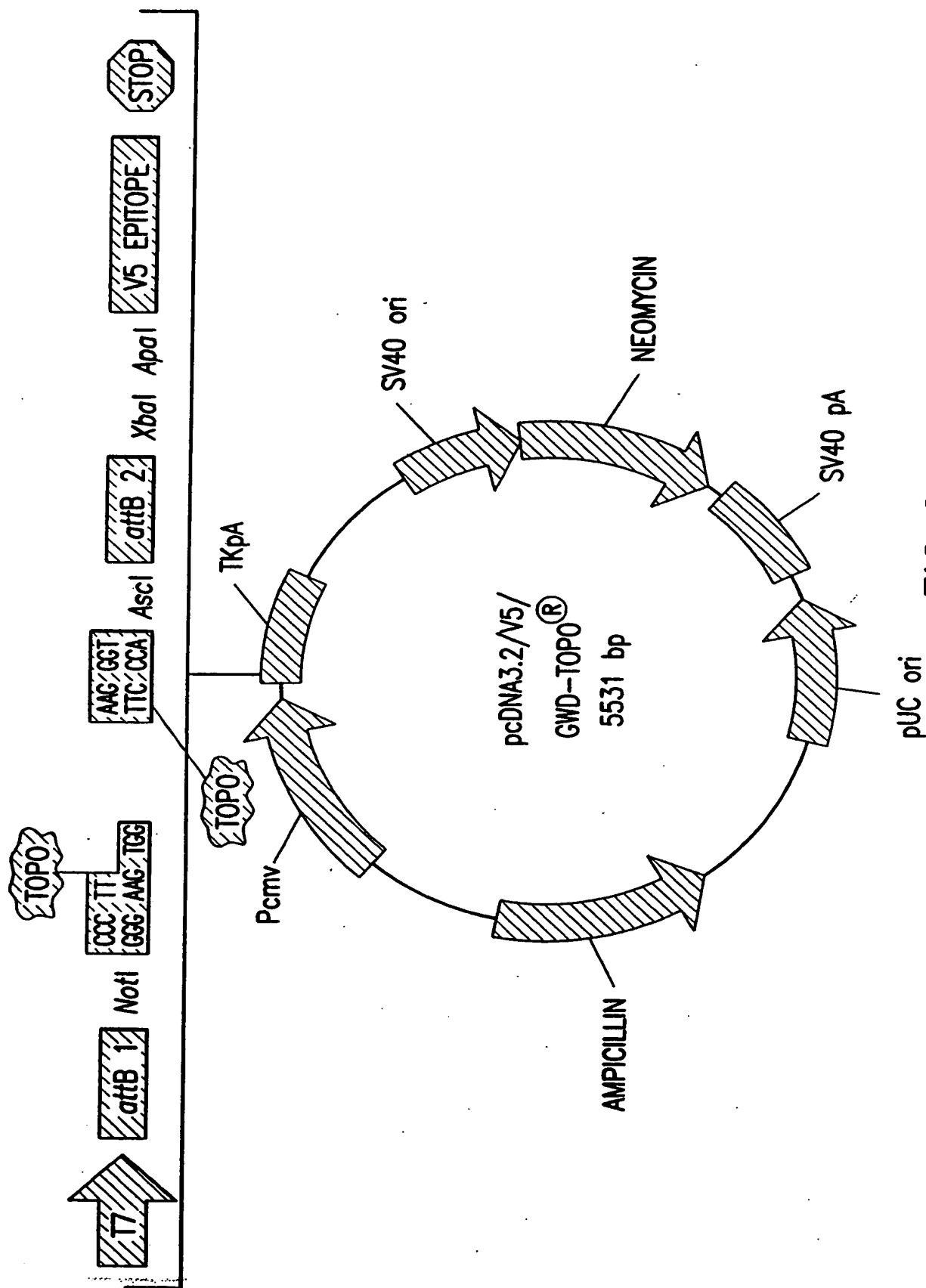


FIG. 24A

```

1 gacggatcgg gagatctccc gatcccctat ggtcgactct cagtacaatc tgctctgatg
61 ccgcatagtt aagccagtat ctgctccctg cttgtgtgtt ggaggtcgct gagtagtgcg
121 cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatg aagaatctgc
181 ttagggttag gcgtttttgcg ctgcttcgcg atgtacgggc cagatatacg cgttgacatt
241 gattattgac tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata
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361 cccgcccatt gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc
421 attgacgtca atgggtggac tatttacggg aaactgccc a cttggcagta catcaagtgt
481 atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt
541 atgcccagta catgacctta tgggactttc ctacttggca gtacatctac gtattagtca
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661 actcacgggg atttccaagt ctccacccca ttgacgtcaa tgggagtttg ttttggcacc
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841 ctgcttactg gcttatcgaa attaatacga ctactatag ggagacccaa gctggctagt
901 taagctatca acaagtttgt acaaaaaagc aggtcccgcg gccgcccctt caccatgnnn
961 nnnnnnaagg gtgggcgcgc cgaccagct ttcttgta aagtggttga tctagagggc
1021 ccgcggttcg aaggtaaagg tatccctaac cctctcctcg gtctcgattc tacgcgtacc
1081 ggtagtaaat gaggttaaac gggggagggt aactgaaaca cggaaggaga caataccgga
1141 aggaacccgc gctatgacgg caataaaaag acagaataaa acgcacgggt gttgggtcgt
1201 ttgttcataa acgcgggggt cgggtcccagg gctggcactc tgtcgatacc ccaccgagac
1261 cccattgggg ccaatacgcc cgcgtttctt ccttttcccc accccacccc ccaagttcgg
1321 gtgaaggccc agggctcgca gccaacgtcg gggcggcagg ccctgccata gcagatctgc
1381 gcagctgggg ctctaggggg tatccccacg cgccctgtag cggcgcatta agcgcggcgg
1441 gtgtggtggt tacgcgcagc gtgaccgcta cacttgccag cgccctagcg cccgctcctt
1501 tcgctttctt cccttccttt ctcgccacgt tcgccggctt tccccgtcaa gctctaaatc
1561 ggggcatccc tttagggttc cgatttagtg ctttacggca cctcgacccc aaaaaacttg
1621 attaggggtg tgggtcacgt agtgggcat cgccctgata gacggttttt cgccctttga
1681 cggttgagtc cacgttcttt aatagtggac tcttgttcca aactggaaca aactcaacc
1741 ctatctcggt ctattctttt gatttataag ggattttggg gatttcggcc tattggttaa
1801 aaaatgagct gatttaacaa aaatttaacg cgaattaatt ctgtggaatg tgtgtcagtt
1861 aggggtgtga aagtccccag gctccccagc aggcagaagt atgcaaagca tgcattctca
1921 ttagtcagca accaggtgtg gaaagtcccc aggtcccca gcaggcagaa gtatgcaaag
1981 catgcatctc aattagtcag caaccatagt cccgccccta actccgcca tcccgcccct
2041 aactccgccc agttccgccc atttccgccc ccatggctga ctaatttttt ttatttatgc
2101 agaggccgag gccgcctctg cctctgagct attccagaag tagtgaggag gcttttttgg
2161 aggcctaggc ttttgcaaaa agctcccggg agcttgata tccattttcg gatctgatca
2221 agagacagga tgaggatcgt ttcgcatgat tgaacaagat ggattgcacg caggttctcc
2281 ggccgcttgg gtggagaggc tattcggtat tgactgggca caacagacaa tcggtgctc
2341 tgatgccgcc gtgttccggc tgtcagcgca ggggcgccc gttctttttg tcaagaccga
2401 cctgtccggt gccctgaatg aactgcagga cgaggcagcg cggtatcgt ggctggccac
2461 gacgggcgtt ccttgccgag ctgtgctcga cgttgtcact gaagcgggaa gggactggct
2521 gctattgggc gaagtgccgg ggcaggatct cctgtcatct caccttgctc ctgccgagaa
2581 agtatccatc atggctgatg caatgcggcg gctgcatacg cttgatccgg ctacctgcc
2641 attcgaccac caagcgaaac atcgcatcga gcgagcacgt actcggatgg aagccggtct
2701 tgtcgatcag gatgatctgg acgaagagca tcaggggctc gcgccagccg aactgttcgc
2761 caggctcaag gcgcgcatgc ccgacggcga ggatctcgtc gtgacctatg gcgatgcctg-

```

FIG.24B

```

2821 cttgccgaat atcatggtgg aaaatggccg cttttctgga ttcacgcact gtggccggct
2881 ggggtgtggcg gaccgctatc aggacatagc gttggctacc cgtgatattg ctgaagagct
2941 tggcgggcgaa tgggctgacc gcttcctcgt gctttacggg atcgccgctc ccgattcgca
3001 gcgcatcgcc ttctatcgcc ttcttgacga gttcttctga gcgggactct ggggttcgcg
3061 aaatgaccga ccaagcgacg cccaacctgc catcacgaga ttctgattcc accgccgcct
3121 tctatgaaag gttgggcttc ggaatcgttt tccgggacgc cggctggatg atcctccagc
3181 gcggggatct catgctggag ttcttcgccc accccaactt gtttattgca gcttataatg
3241 gttacaaata aagcaatagc atcacaaatt tcacaaataa agcatttttt tcaactgcatt
3301 ctagttgtgg tttgtccaaa ctcatcaatg tatcttatca tgtctgtata ccgtcgacct
3361 ctagctagag cttggcgtaa tcatggtcat agctgtttcc tgtgtgaaat tgttatccgc
3421 tcacaattcc acacaacata cgagccggaa gcataaagtg taaagcctgg ggtgcctaata
3481 gagtgaagta actcacatta attgcgttgc gctcactgcc cgctttccag tcgggaaacc
3541 tgcgtgcca gctgcattaa tgaatcggcc aacgcgcggg gagaggcggg ttgctgattg
3601 ggcgctcttc cgcttcctcg ctactgact cgctgcgctc ggtcgctcgg ctgcggcgag
3661 cggtatcagc tcaactcaag gcggaatac ggttatccac agaatacagg gataacgcag
3721 gaaagaacat gtgagcaaaa ggccagcaaa aggccaggaa ccgtaaaaag gccgcgttgc
3781 tggcggtttt ccataggctc cgccccctg acgagcatca caaaaatcga cgctcaagtc
3841 agaggtggcg aaacccgaca ggactataaa gataccaggc gtttccccct ggaagctccc
3901 tcgtgcgctc tcctgttccg accctgccgc ttaccggata cctgtccgcc tttctccctt
3961 cggaagcgt ggcgctttct caatgctcac gctgtaggta tctcagttcg gtgtaggtcg
4021 ttcgctccaa gctgggctgt gtgcacgaac cccccgttca gcccagccgc tgcgccttat
4081 ccggtactaa tcgtcttgag tccaacccgg taagacacga cttatcgcca ctggcagcag
4141 ccactggtaa caggattagc agagcgagg atgtaggcgg tgctacagag ttcttgaagt
4201 ggtggcctaa ctacggctac actagaagga cagtatttgg tatctgcgct ctgctgaagc
4261 cagttacctt cggaaaaaga gttggtagct cttgatccgg caaacaacc accgctggtg
4321 gcggtggttt ttttgtttgc aagcagcaga ttacgcgcag aaaaaagga tctcaagaag
4381 atcctttgat cttttctacg gggctctgac ctcagtggaa cgaaaactca cgttaagga
4441 ttttggcat gagattatca aaaaggatct tcacctagat ccttttaaat taaaaatgaa
4501 gttttaaatc aatctaaagt atatatgagt aaacttggtc tgacagttac caatgcttaa
4561 tcagtgaagg acctatctca gcgatctgtc tatttcgttc atccatagtt gcctgactcc
4621 ccgtcggtga gataactacg atacgggagg gcttaccatc tggccccagt gctgcaatga
4681 taccgcgaga cccacgctca ccggctccag atttatcagc aataaaccag ccagccggaa
4741 gggccgagcg cagaagtggg cctgcaactt tatccgcctc catccagtct attaattggt
4801 gccgggaagc tagagtaagt agttcgccag ttaatagttt gcgcaacgtt gttgccattg
4861 ctacaggcag cgtggtgtca cgctcgctgt ttggtatggc ttcatcagc tccggttccc
4921 aacgatcaag gcgagttaca tgatccccc tgttggtgcaa aaaagcgggt agctccttcg
4981 gtcctccgat cgttgctcaga agtaagtgg ccgcagtgtt atcactcatg gttatggcag
5041 cactgcataa ttctcttact gtcatgccat ccgtaagatg cttttctgtg actggtgagt
5101 actcaaccaa gtcattctga gaatagtgtg tgcggcgacc gagttgctct tgcccggcgt
5161 caatacggga taataccgcg ccacatagca gaactttaaa agtgctcatc attggaaaac
5221 gttcttcggg gcgaaaactc tcaaggatct taccgctgtt gagatccagt tcgatgtaac
5281 ccactcgtgc acccaactga tcttcagcat cttttacttt caccagcgtt tctgggtgag
5341 caaaaacagg aaggcaaat gccgcaaaaa agggaataag ggcgacacgg aaatgttgaa
5401 tactcatact cttccttttt caatattatt gaagcattta tcagggttat tgtctcatga
5461 gcggatacat atttgaatgt atttagaaaa ataaacaaat aggggttccg cgcacatttc
5521 cccgaaaagt gccacctgac gtc

```

FIG. 24C

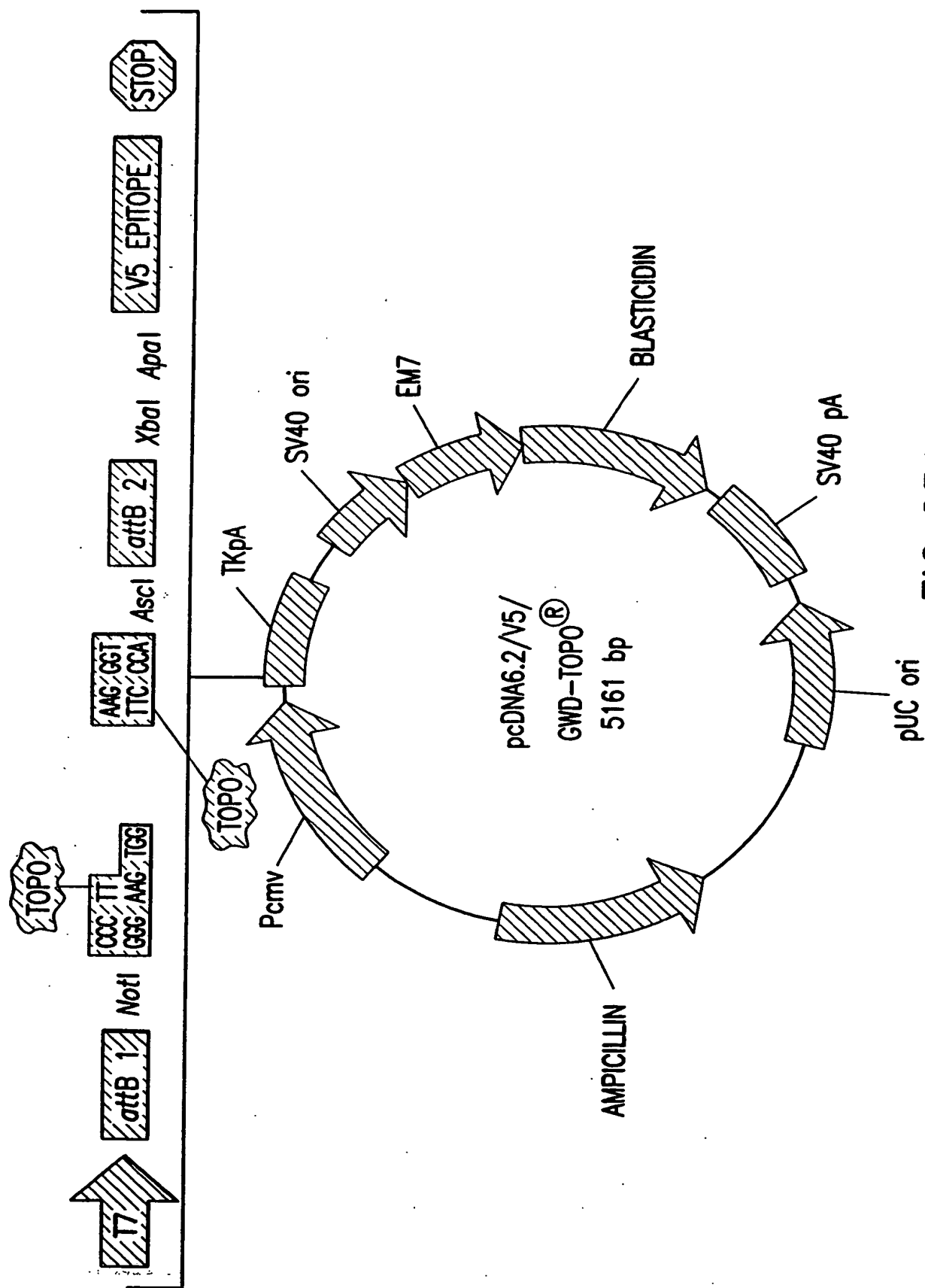


FIG. 25A

1 gacggatcgg gagatctccc gatcccctat ggtgcactct cagtacaatc tgctctgatg  
 61 ccgcatagtt aagccagtat ctgctccctg cttgtgtgtt ggaggtcgct gagtagtgcg  
 121 cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatg aagaatctgc  
 181 ttagggttag gcgttttgcg ctgcttcgcg atgtacgggc cagatatacg cgttgacatt  
 241 gattattgac tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata  
 301 tggagttccg cgttacataa cttacggtaa atggcccgcg tggctgaccg cccaacgacc  
 361 cccgcccatt gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc  
 421 attgacgtca atgggtggag tatttacggt aaactgcccc cttggcagta catcaagtgt  
 481 atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt  
 541 atgcccagta catgacctta tgggactttc ctacttgga gtacatctac gtattagtca  
 601 tcgctattac catggtgatg cggttttggc agtacatcaa tgggctgga tagcggtttg  
 661 actcacgggg atttccaagt ctccacccca ttgacgtcaa tgggagtttg ttttggcacc  
 721 aaaatcaacg ggactttcca aaatgtcgta acaactccgc cccattgacg caaatgggcg  
 781 gtaggcgtgt acgggtggag gtctatataa gcagagctct ctggctaact agagaaccca  
 841 ctgcttactg gcttatcgaa attaatacga ctactatag ggagacccaa gctggctagt  
 901 taagctatca acaagtttgt acaaaaaagc aggtcccgcg gccgcccctt caccatgnnn  
 961 nnnnnnaagg gtgggcgcgc cgaccagct ttcttgtaaa aagtggttga tctagagggc  
 1021 ccgcggttcg aaggtgaagcc tatccctaac cctctcctcg gtctcgattc tacgcgtacc  
 1081 ggtagtaaat gagtttaaac gggggagggt aactgaaaca cggaaggaga caataccgga  
 1141 aggaacccgc gctatgacgg caataaaaag acagaataaa acgcacgggt gttgggtcgt  
 1201 ttgttcataa acgcgggggt cggtcccagg gctggcactc tgtcgatacc ccaccgagac  
 1261 cccattgggg ccaatacgcc cgcgtttctt ccttttcccc accccacccc ccaagttcgg  
 1321 gtgaaggccc agggctcgca gccaacgtcg gggcggcagg ccctgccata gcagatctgc  
 1381 gcagctgggg ctctaggggg tatccccacg cgccctgtag cggcgcatta agcgcggcgg  
 1441 gtgtggtggt tacgcgcagc gtgaccgcta cacttgccag cgccctagcg cccgtcctt  
 1501 tcgctttctt cccttccttt ctgcgccagt tcgcgggctt tccccgtaaa gctctaaatc  
 1561 ggggcatccc tttagggttc cgatttagtg ctttacggca cctcgacccc aaaaaacttg  
 1621 attagggtga tggttcacgt agtgggcat cgccctgata gacggttttt cgccctttga  
 1681 cgttgagtc caggttcttt aatagtggac tcttgttcca aactggaaca acactcaacc  
 1741 ctatctcggt ctattctttt gatttataag ggattttggg gatttcggcc tattggttaa  
 1801 aaaatgagct gatttaacaa aaatttaacg cgaattaatt ctgtggaatg tgtgtcagtt  
 1861 aggggtgtgga aagtcgccag gtcgccagc aggcagaagt atgcaaagca tgcattctca  
 1921 ttagtcagca accaggtgtg gaaagtcccc aggtcccca gcaggcagaa gtatgcaaag  
 1981 catgcatctc aattagtcag caaccatagt cccgccccta actccgcccc tcccgccctt  
 2041 aactccgccc agttccgccc attctccgcc ccatggctga ctaatttttt ttatttatgc  
 2101 agaggccgag gccgcctctg cctctgagct attccagaag tagtgaggag gcttttttgg  
 2161 aggcctaggg ttttgcaaaa agctcccggg agcttgata tccattttcg gatctgatca  
 2221 gcacgtgttg acaattaatc atcggcatag tatatcggca tagtataata cgacaagggt  
 2281 aggaactaaa ccatggccaa gcctttgtct caagaagaat ccaccctcat tgaaagagca  
 2341 acggctacaa tcaacagcat ccccatctct gaagactaca gcgtcgccag cgcagctctc  
 2401 tctagcgacg gccgcatctt cactggtgtc aatgtatata attttactgg gggaccttgt  
 2461 gcagaactcg tgggtgctggg cactgctgct gctgcggcag ctggcaacct gacttgatc  
 2521 gtcgcatcg gaaatgagaa caggggcatc ttgagcccct gcggacgggt ccgacagggt  
 2581 cttctcgatc tgcattctgg gatcaaagcc atagtgaagg acagtgatgg acagccgacg  
 2641 gcagttggga ttcgtgaatt gctgccctct ggttatgtgt gggagggtta agcacttcgt  
 2701 ggccgaggag caggactgac acgtgctacg agatttcgat tccaccgccc cttctatga  
 2761 aaggttgggc ttcggaatcg ttttccggga cgccggctgg atgacctcc agcgcgggga-

FIG.25B



```

2821 tctcatgctg gagttcttcg cccaccccaa cttgtttatt gcagcttata atggttacaa
2881 ataaagcaat agcatcacaa atttcacaaa taaagcattt ttttcaactgc attctagttg
2941 tggtttgtcc aaactcatca atgtatctta tcatgtctgt ataccgtcga cctctagcta
3001 gagcttggcg taatcatggt catagctggt tcctgtgtga aattgttatc cgctcacaa
3061 tccacacaac atacgagccg gaagcataaa gtgtaaagcc tggggtgcct aatgagtga
3121 ctaactcaca ttaattgcgt tgcgtcact gcccgccttc cagtcgggaa acctgtcgtg
3181 ccagctgcat taatgaatcg gccaacgcgc ggggagaggc ggtttgcgta ttgggcgctc
3241 ttccgcttc tcgtcactg actcgtcgcg ctcggtcgtt cggctgcggc gagcggatc
3301 agctcactca aaggcggtaa tacggttatc cacagaatca ggggataacg caggaaagaa
3361 catgtgagca aaaggccagc aaaaggccag gaaccgtaaa aaggccgcgt tgctggcgtt
3421 tttccatagg ctccgcccc ctgacgagca tcacaaaaat cgacgctcaa gtcagagggtg
3481 gcgaaacccg acaggactat aaagatacca ggcgtttccc cctggaagct ccctcgtgcg
3541 ctctcctggt ccgaccctgc cgcttaccgg atacctgtcc gcctttctcc cttcgggaag
3601 cgtggcgctt tctcatagct cacgctgtag gtatctcagt tcggtgtagg tcgttcgctc
3661 caagctgggc tgtgtgcacg aacccccgt tcagcccgcg cgctgcgcct tatccggtaa
3721 ctatcgtctt gagtccaacc cggtaaagaca cgacttatcg ccactggcag cagccactgg
3781 taacaggatt agcagagcga ggtatgtagg cgggtctaca gaggttcttga agtggtggcc
3841 taactacggc tacactagaa gaacagtatt tggatatctg gctctgctga agccagttac
3901 cttcggaaaa agagttggtg gctcttgatc cggcaaaaa accaccgctg gtagcggttt
3961 ttttgtttgc aagcagcaga ttacgcgcag aaaaaagga tctcaagaag atcctttgat
4021 cttttctacg ggggtctgacg ctcaagtggaa cgaaaactca cgtaaggga ttttggatcat
4081 gagattatca aaaaggatct tcacctagat ccttttaaat taaaaatgaa gttttaaatc
4141 aatctaaagt atatatgagt aaacttggtc tgacagttac caatgcttaa tcagtgaaggc
4201 acctatctca gcgatctgtc tatttcgttc atccatagtt gcctgactcc ccgtcgtgta
4261 gataactacg atacgggagg gcttaccatc tggccccagt gctgcaatga taccgcgaga
4321 cccacgctca ccggctccag atttatcagc aataaaccag ccagccggaa gggccgagcg
4381 cagaagtggg cctgcaactt tatccgcctc catccagtct attaattggt gccgggaagc
4441 tagagtaagt agttcgccag ttaatagttt gcgcaacggt gttgccattg ctacaggcat
4501 cgtggtgtca cgctcgtcgt ttggtatggc ttcatcagc tccggttccc aacgatcaag
4561 gcgagttaca tgatcccca tgttggtgaa aaaagcggtt agctccttcg gtcctccgat
4621 cgttgctcaga agtaagttgg ccgcagtgtt atcactcatg gttatggcag cactgcataa
4681 ttctcttact gtcatgccat ccgtaagatg cttttctgtg actggtgagt actcaaccaa
4741 gtcattctga gaatagtgtg tgcggcgacc gagttgctct tgcccggcgt caatacggga
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4861 gcgaaaactc tcaaggatct taccgtgtt gagatccagt tcgatgtaac ccactcgtgc
4921 acccaactga tcttcagcat cttttacttt caccagcgtt tctgggtgag caaaaacagg
4981 aaggcaaaat gccgaaaaa agggaataag ggcgacacgg aaatggtgaa tactcatact
5041 cttccttttt caatattatt gaagcattta tcagggttat tgtctcatga gcggatacat
5101 atttgaatgt atttagaaaa ataaacaaat aggggttccg cgcacatttc cccgaaaagt
5161 gccacctgac gtc

```

FIG.25C



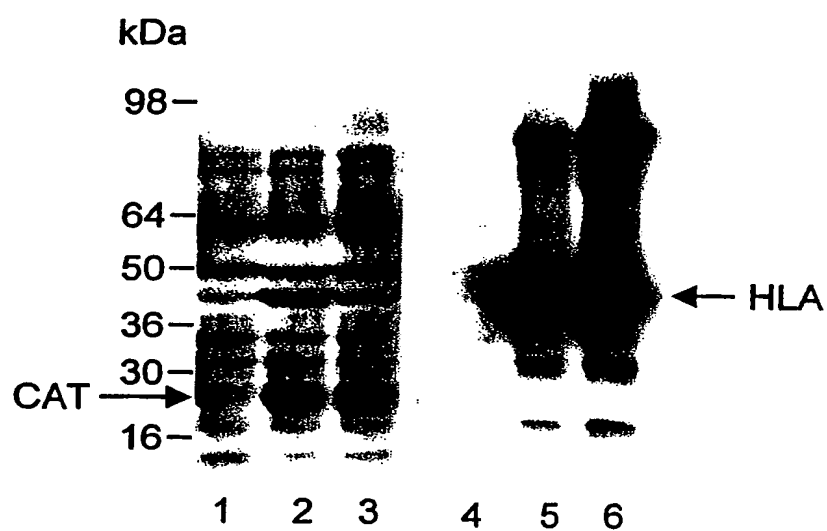


FIG.27

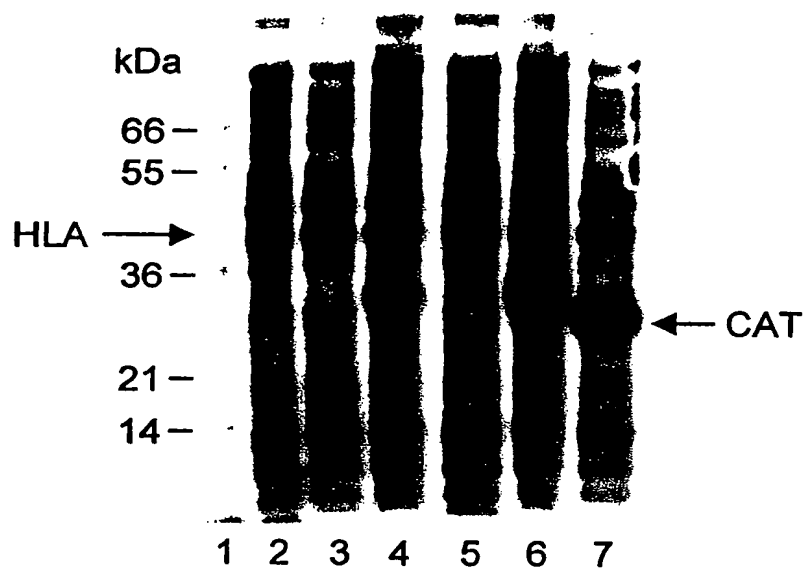


FIG.28

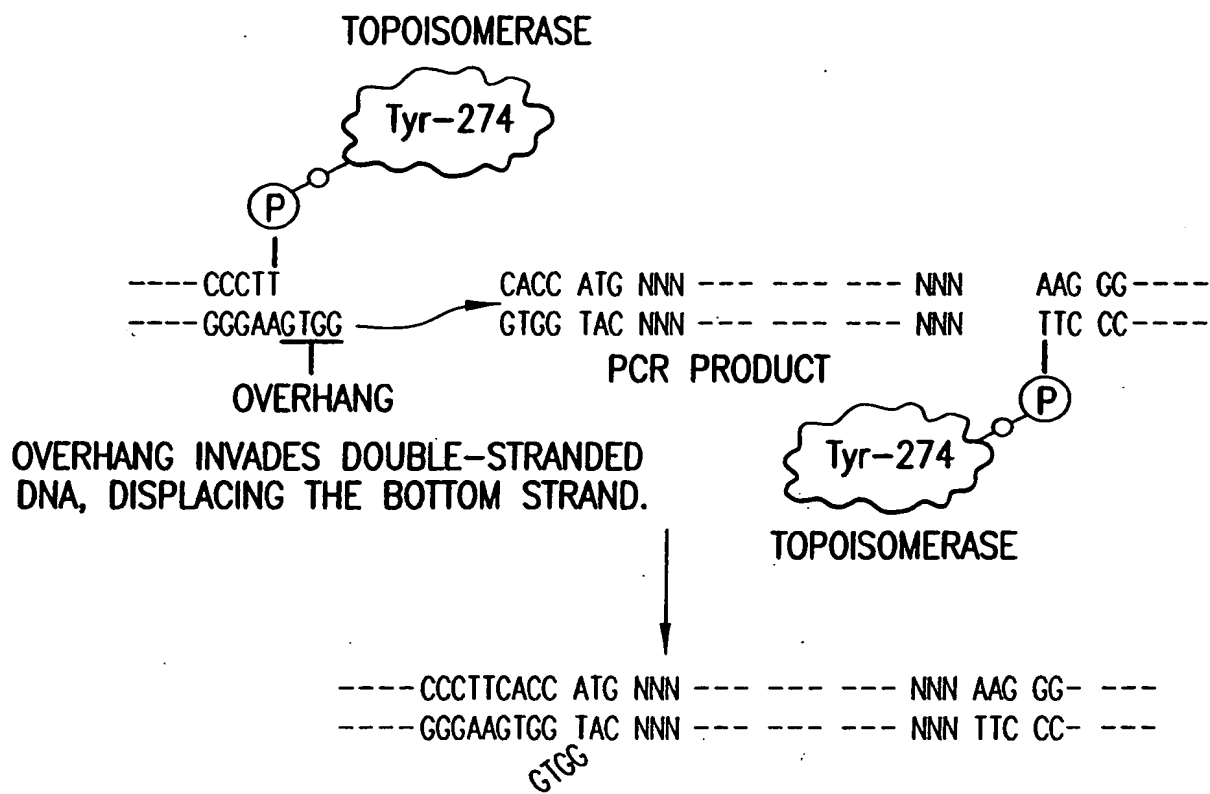


FIG. 29

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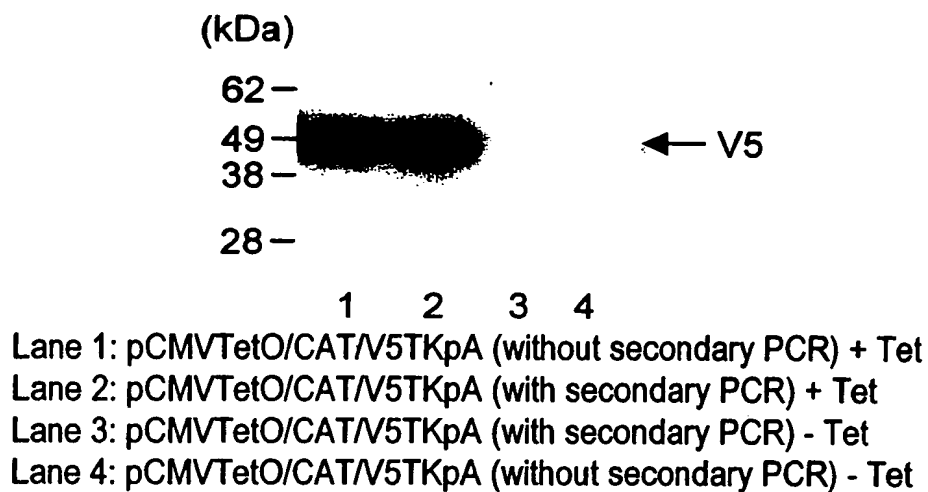


FIG.30A

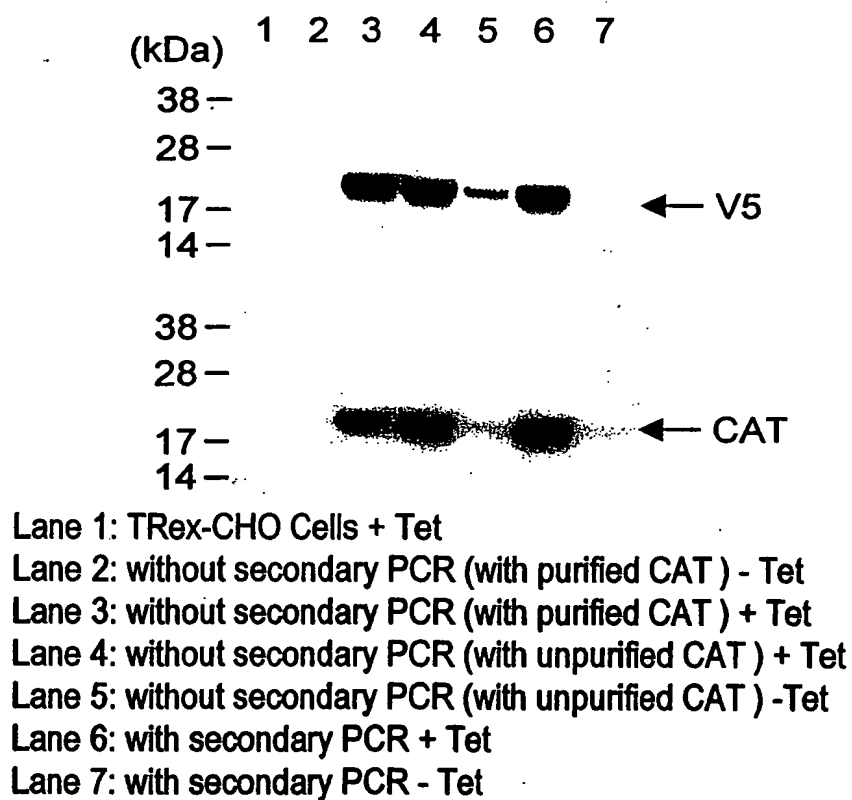
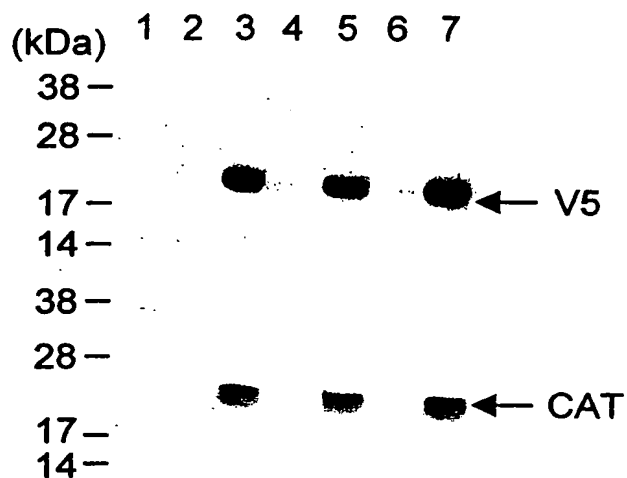
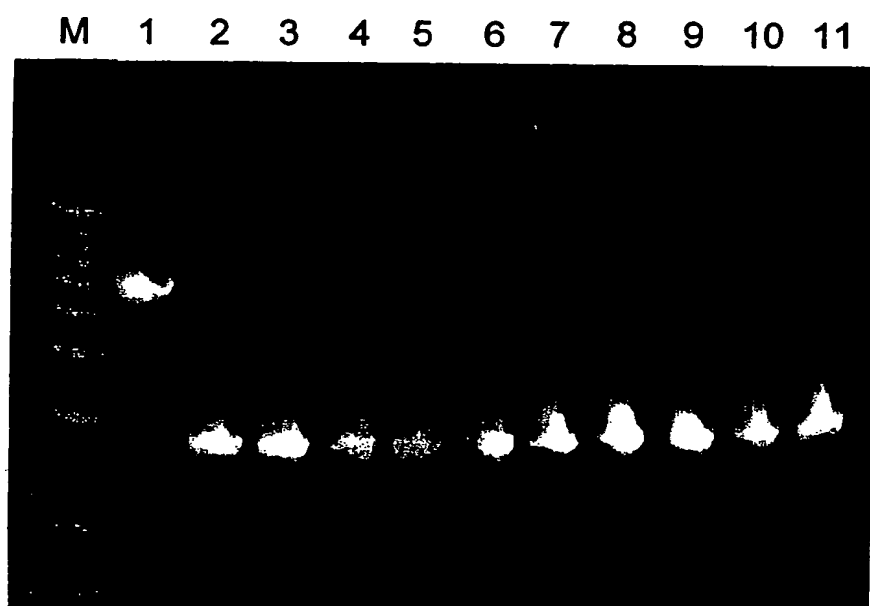


FIG.30B



Lane 1: TRex-293 Cells + Tet  
Lane 2: without secondary PCR (with purified CAT) - Tet  
Lane 3: without secondary PCR (with purified CAT) + Tet  
Lane 4: without secondary PCR (with unpurified CAT) - Tet  
Lane 5: without secondary PCR (with unpurified CAT) + Tet  
Lane 6: with secondary PCR - Tet  
Lane 7: with secondary PCR + Tet

**FIG.30C**



Lane 1: negative control; lanes 2-11: test clones; M: 500 bp marker

**FIG.31**



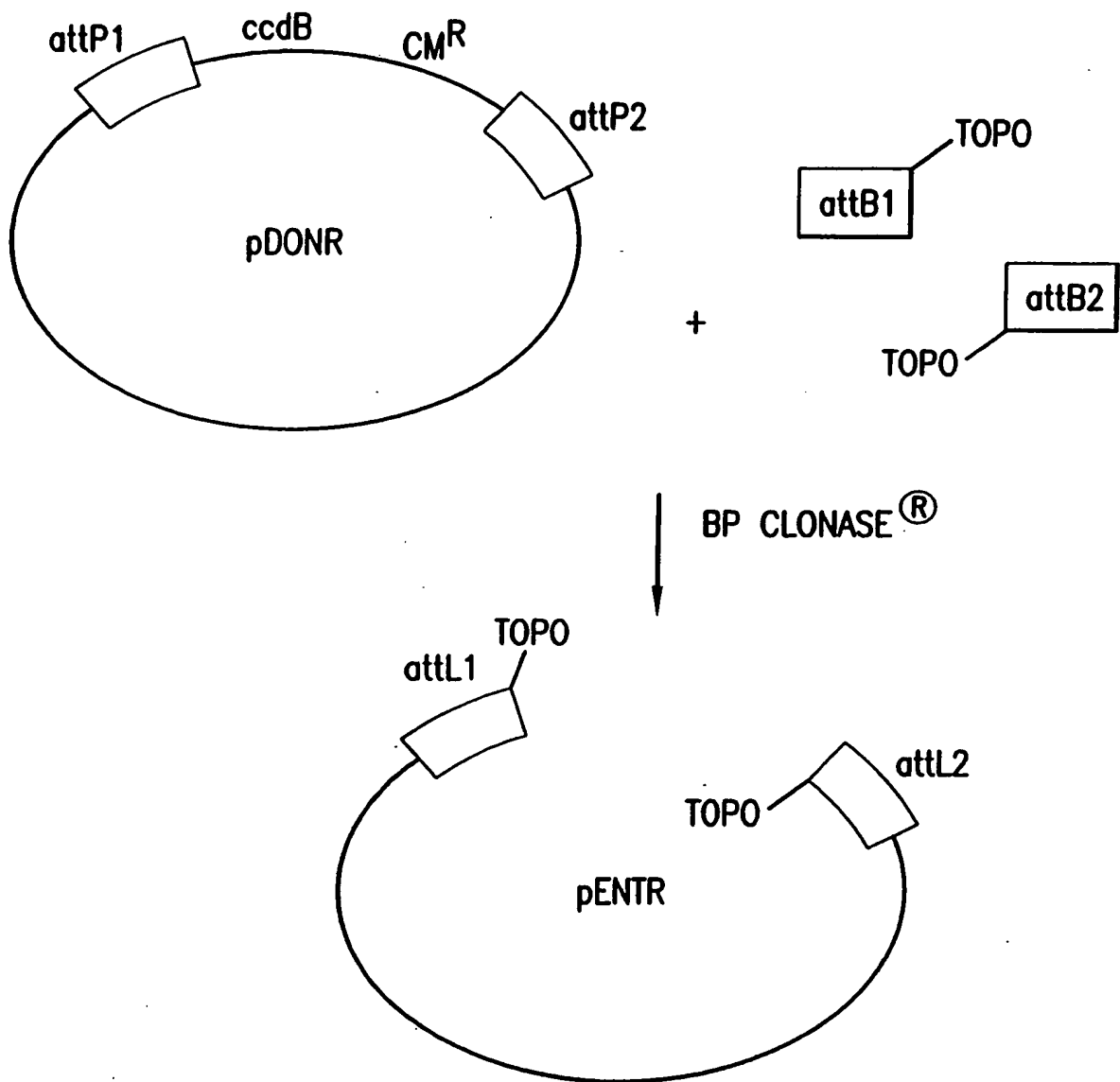


FIG. 32

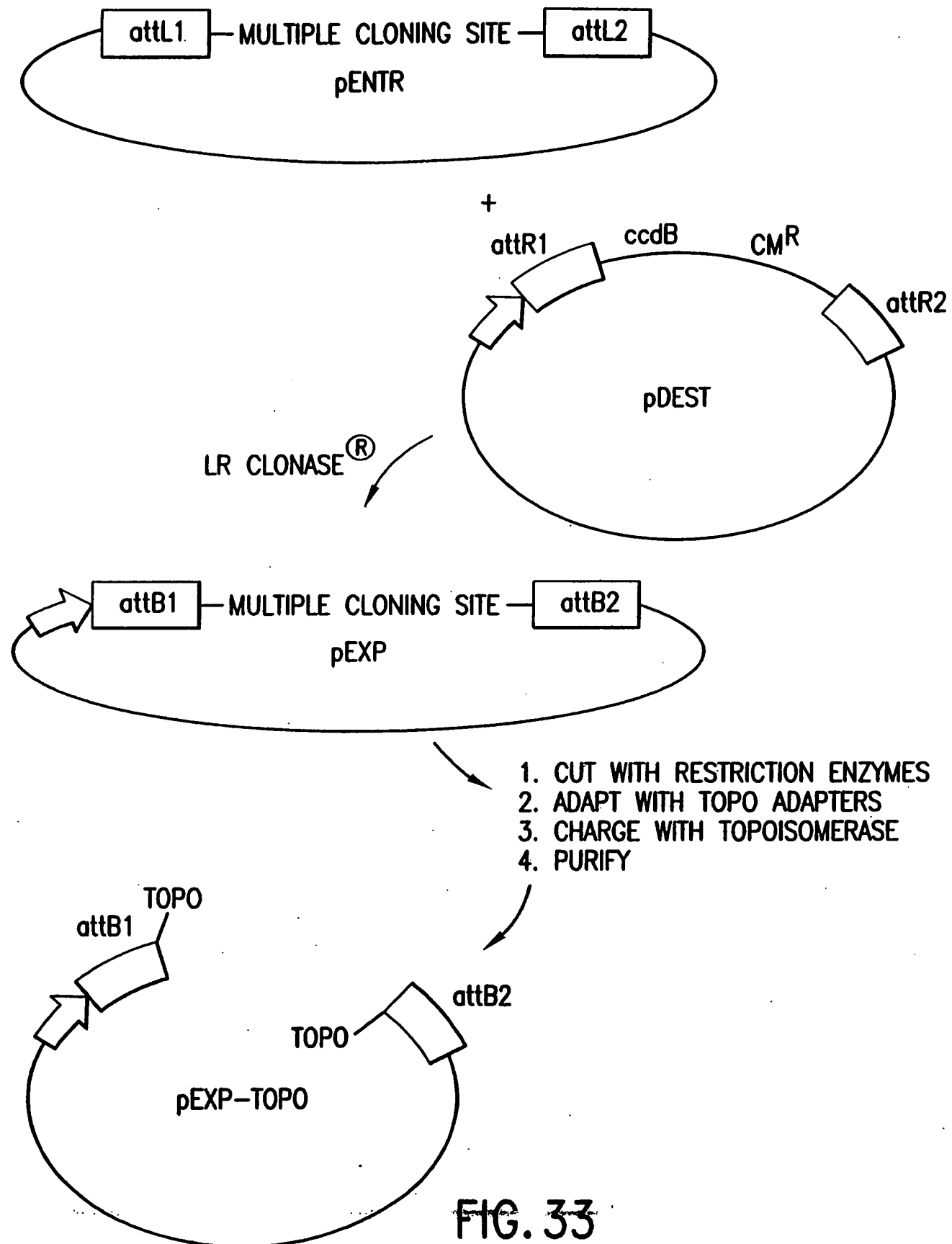


FIG. 33

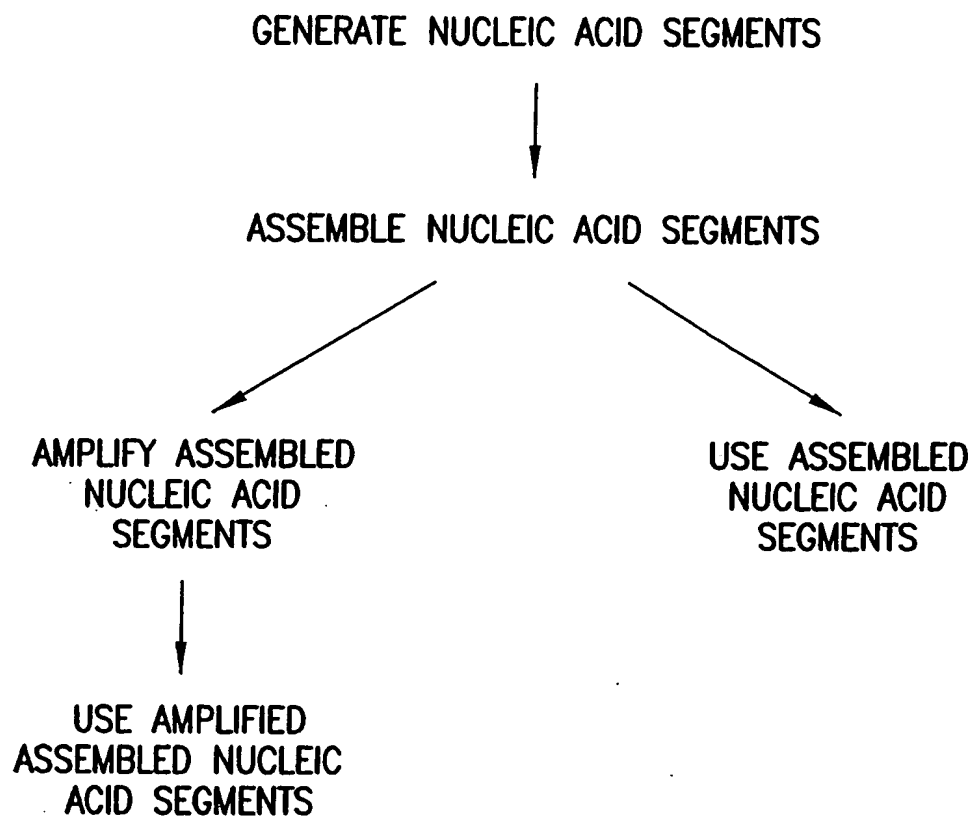


FIG. 34

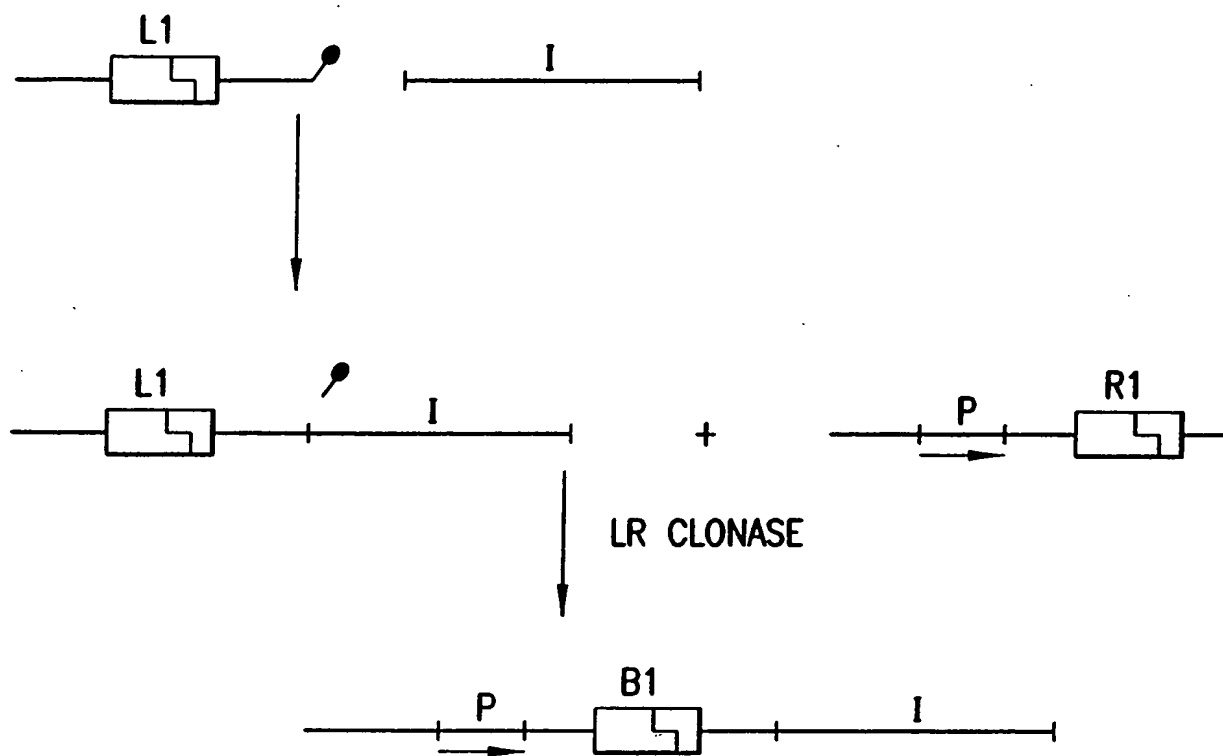


FIG. 35

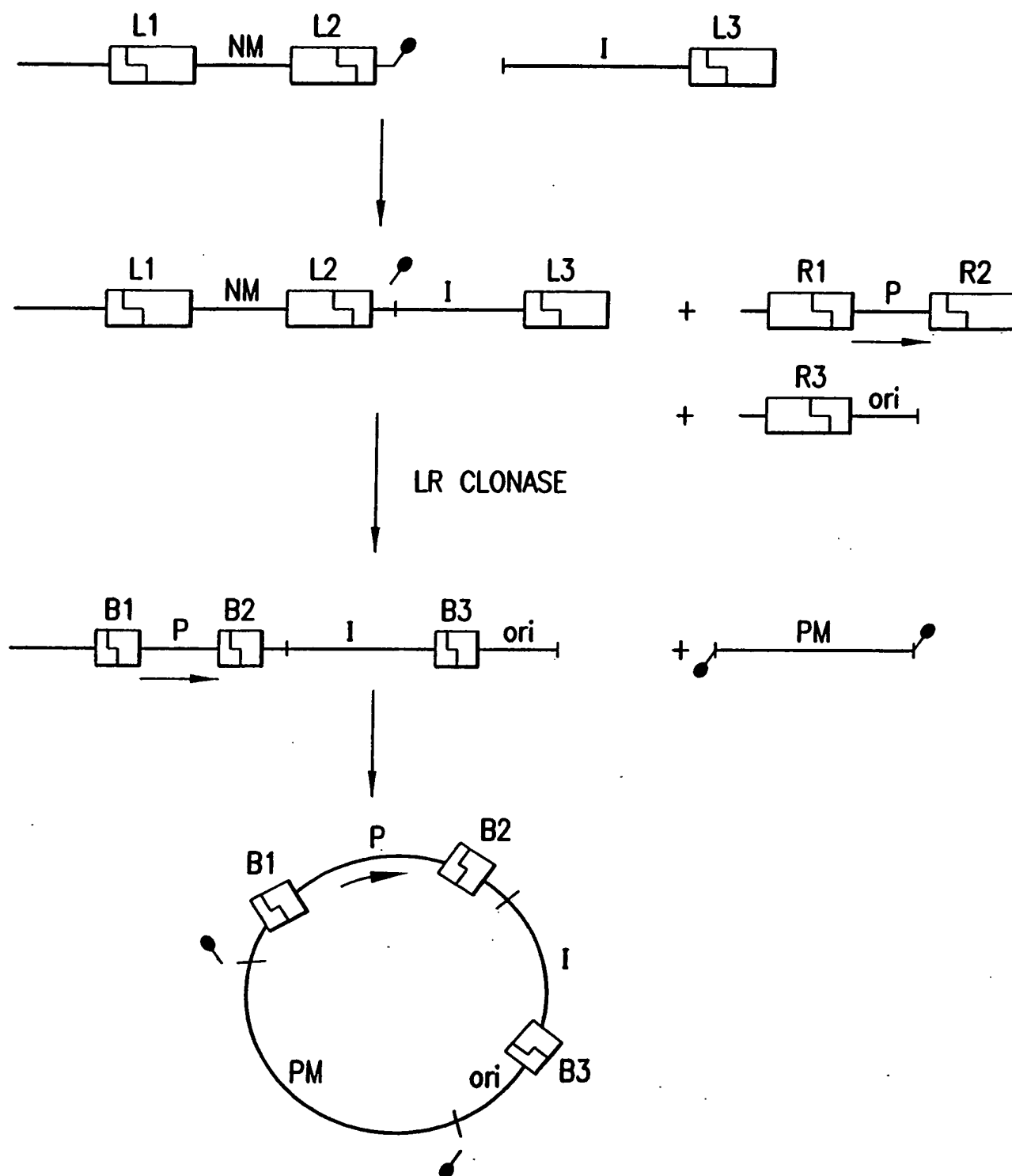


FIG. 36

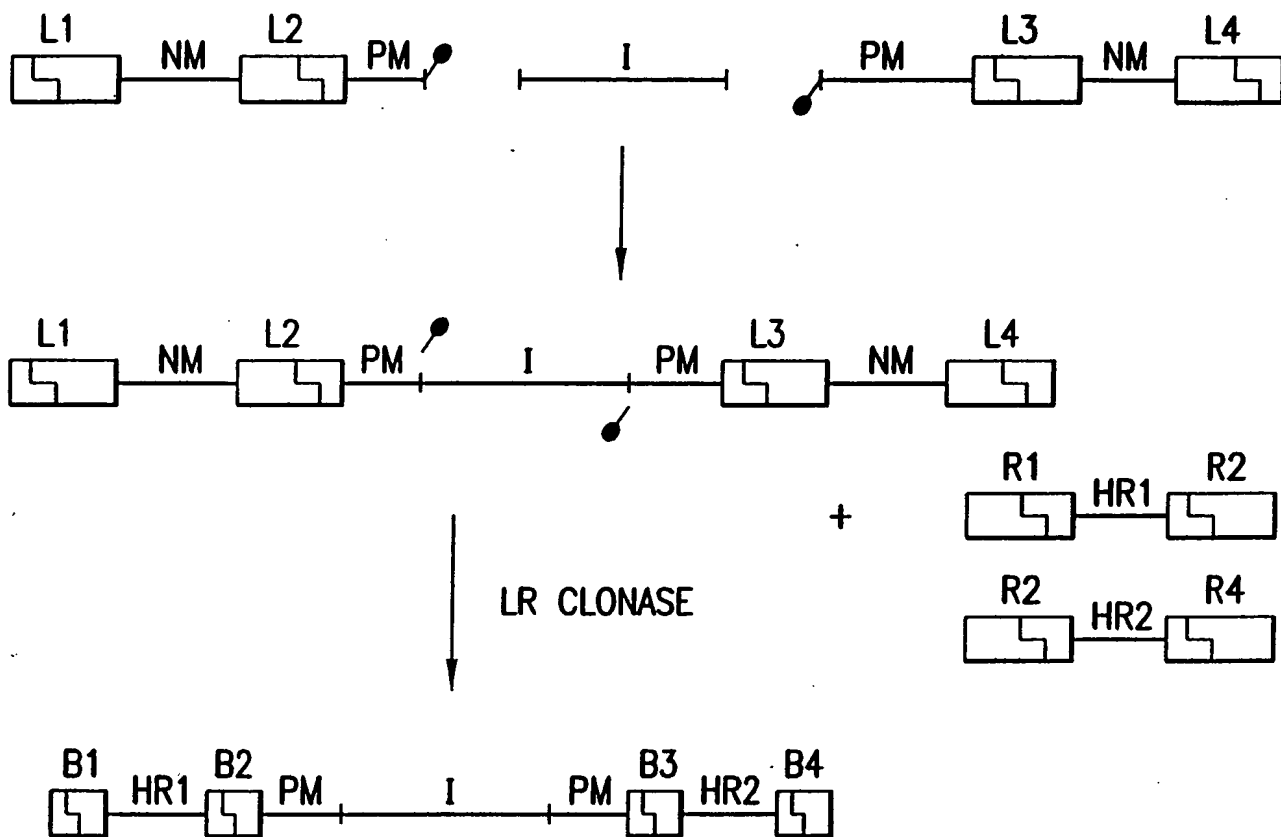


FIG. 37

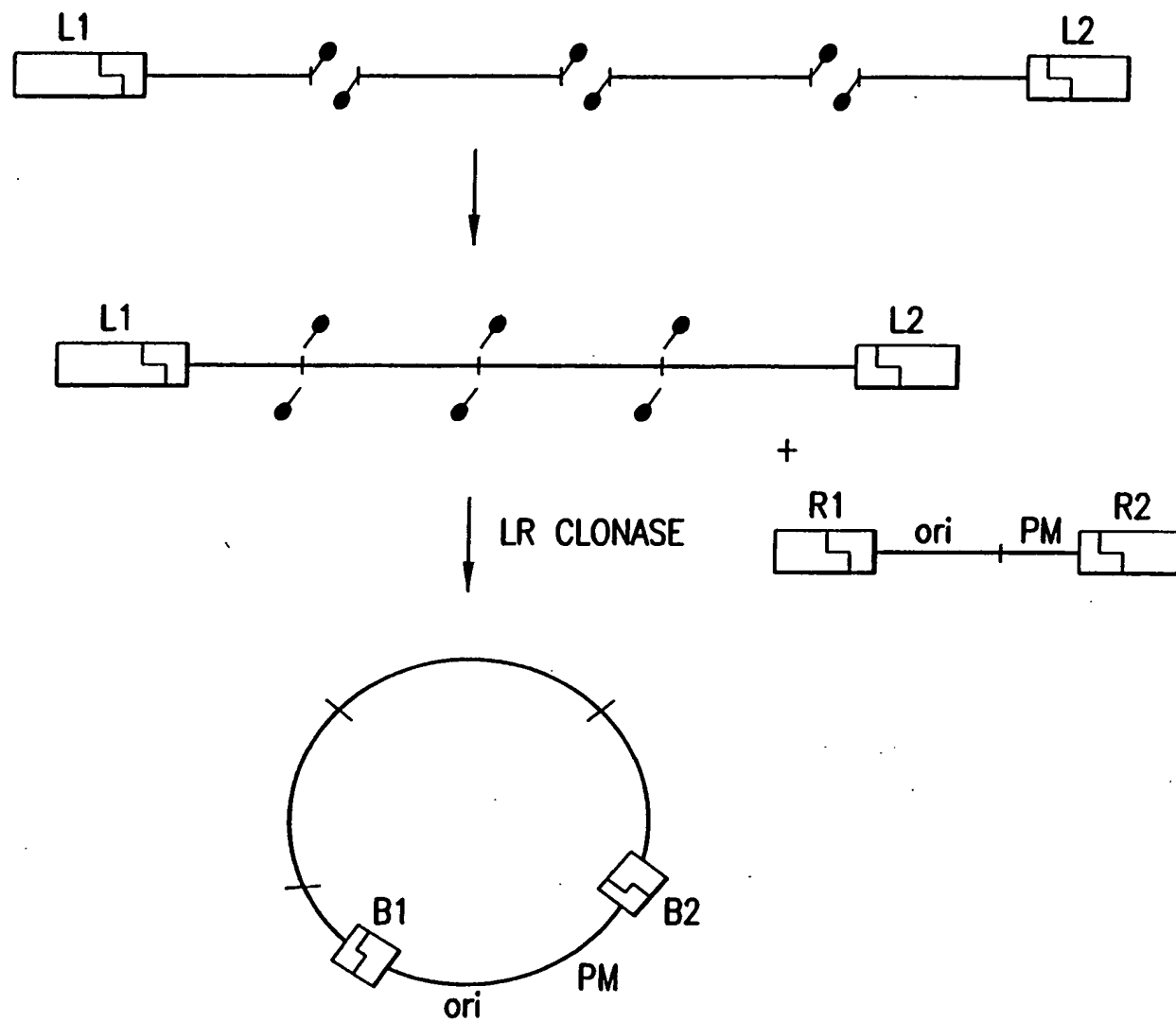


FIG. 38

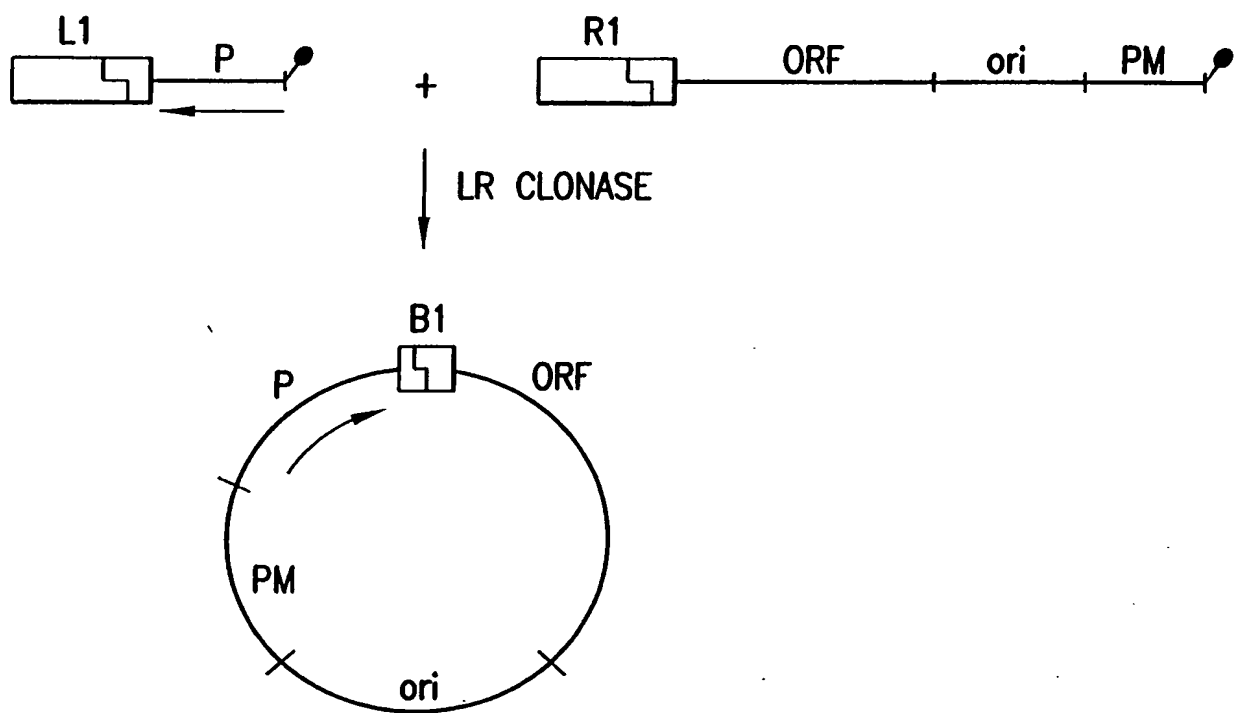


FIG. 39



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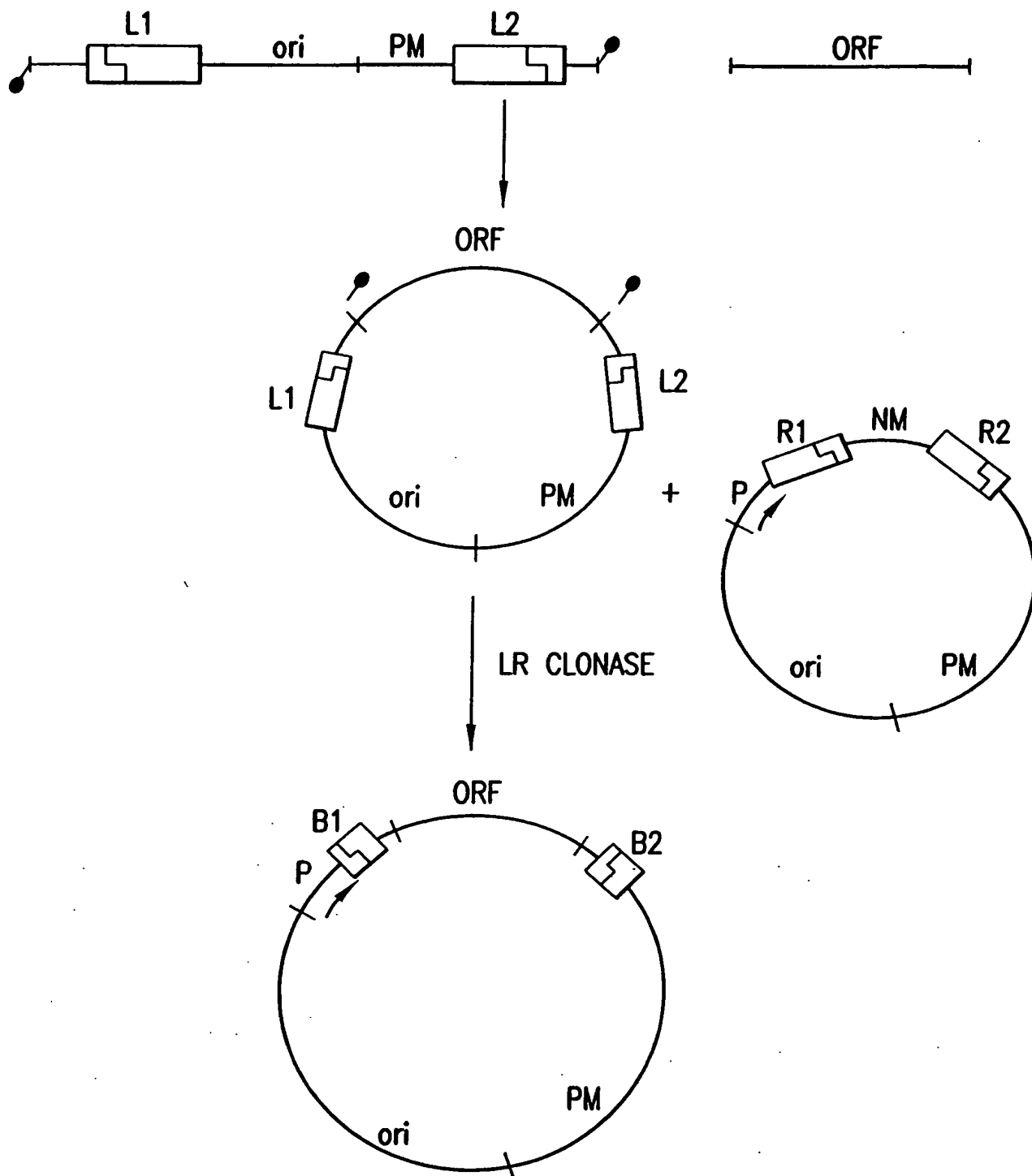
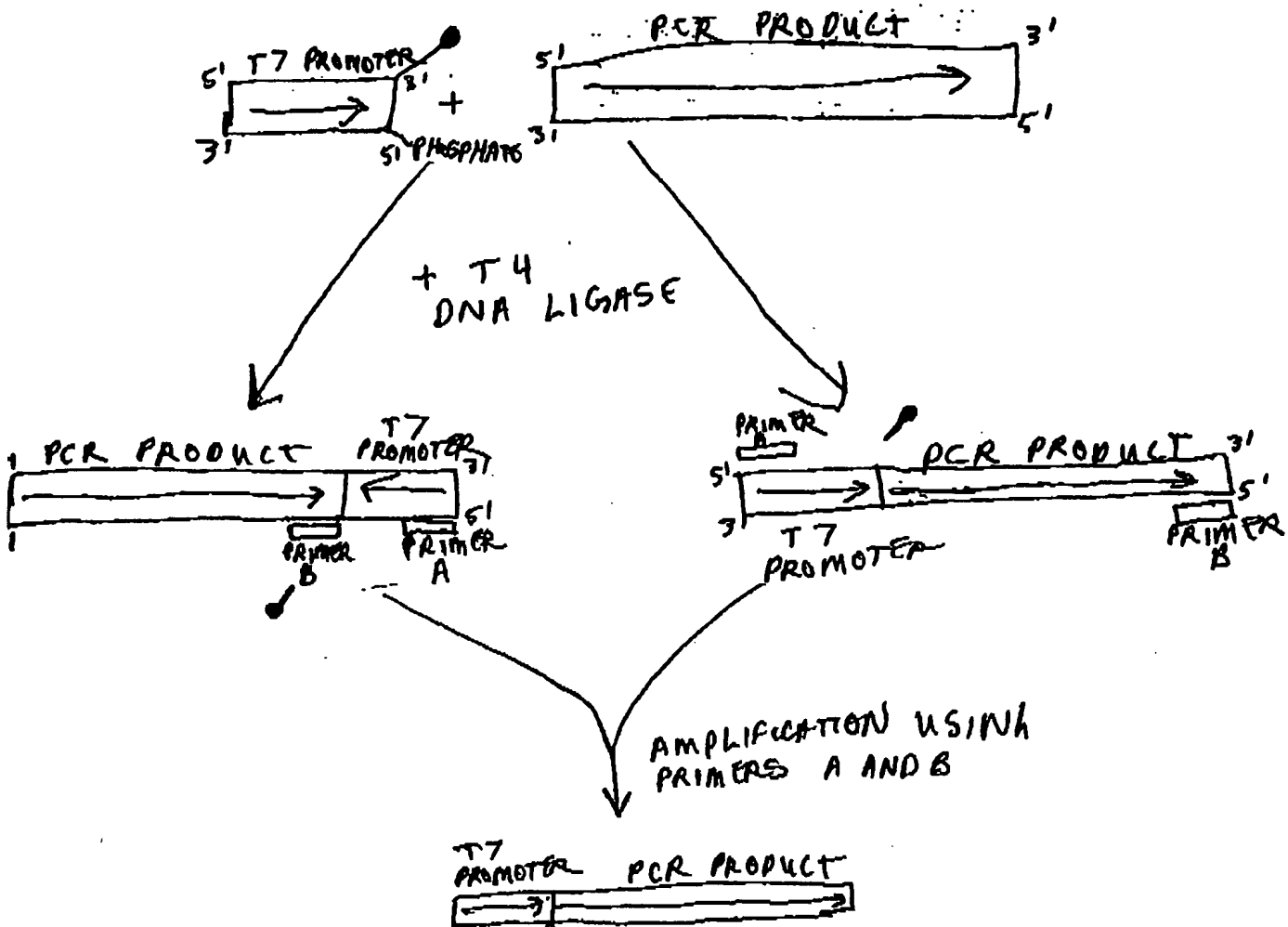


FIG. 40

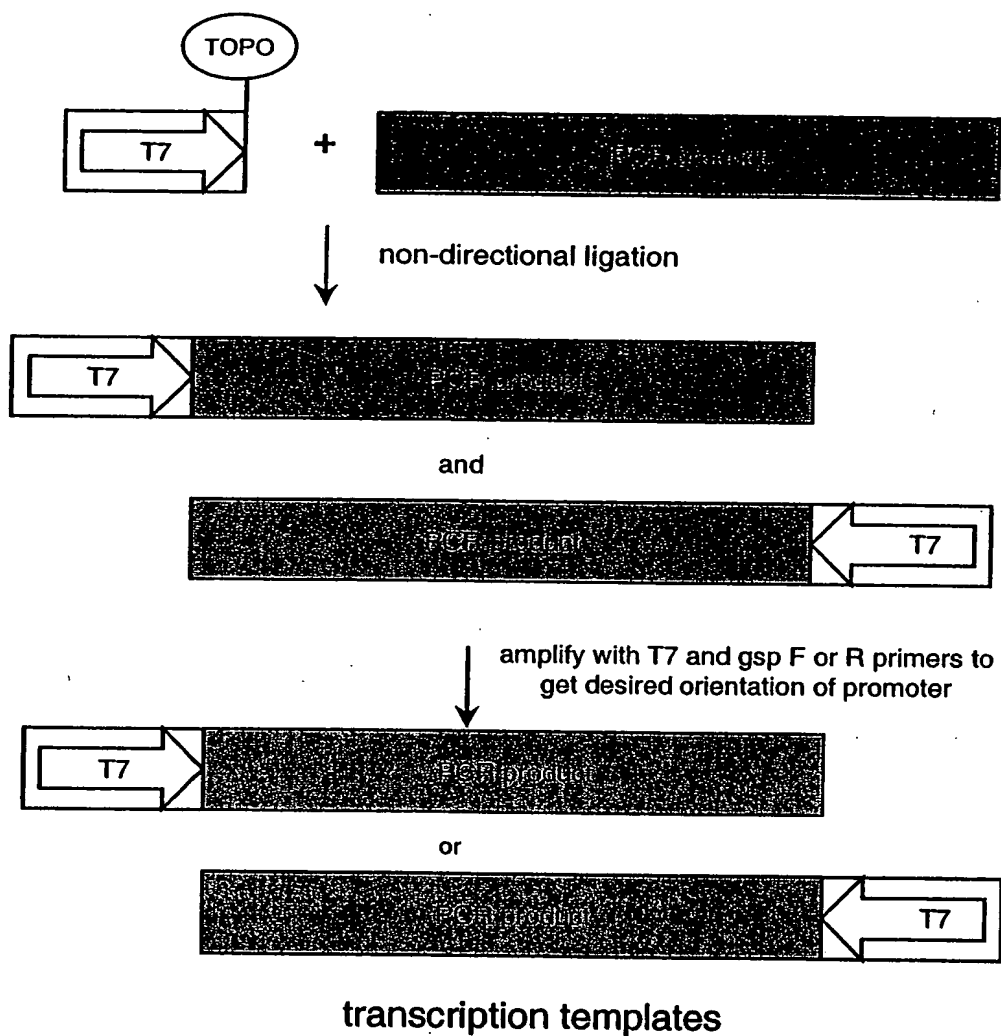
Figure 41



**A.**

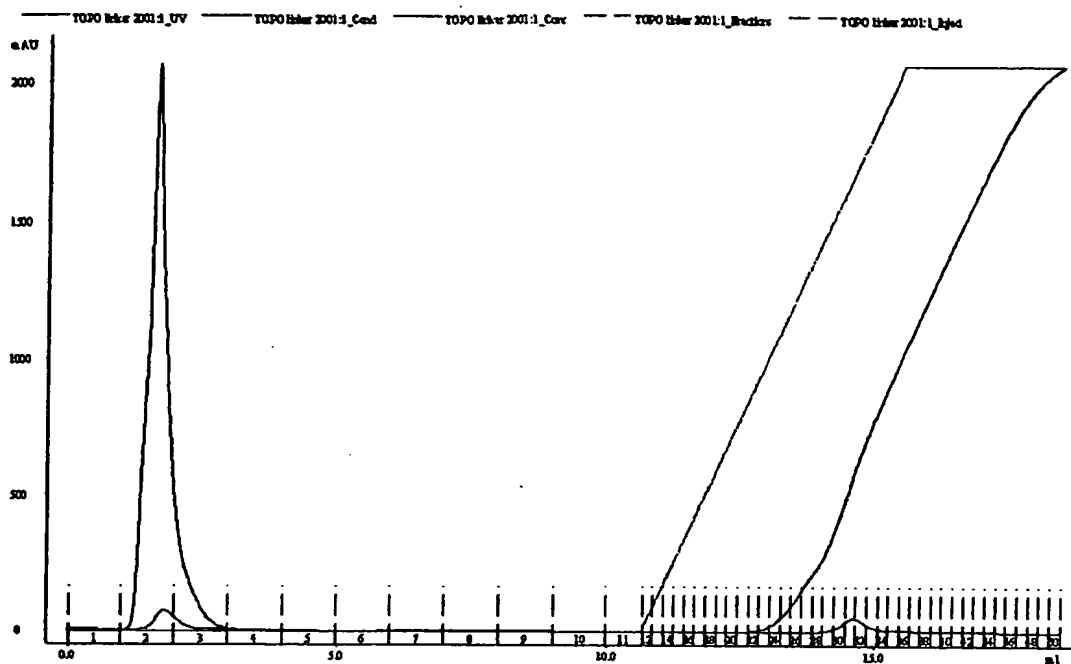
	<b>T7 promoter</b>	<b>TOPO</b>	
5'	pGACTCGTAATACGACTCACTATAGGGCCCTT	3'	
3'	AAAAAAAAAAAACTGAGCATTATGCTGAGTGATATCCCGGGAp	5'	

**B.**

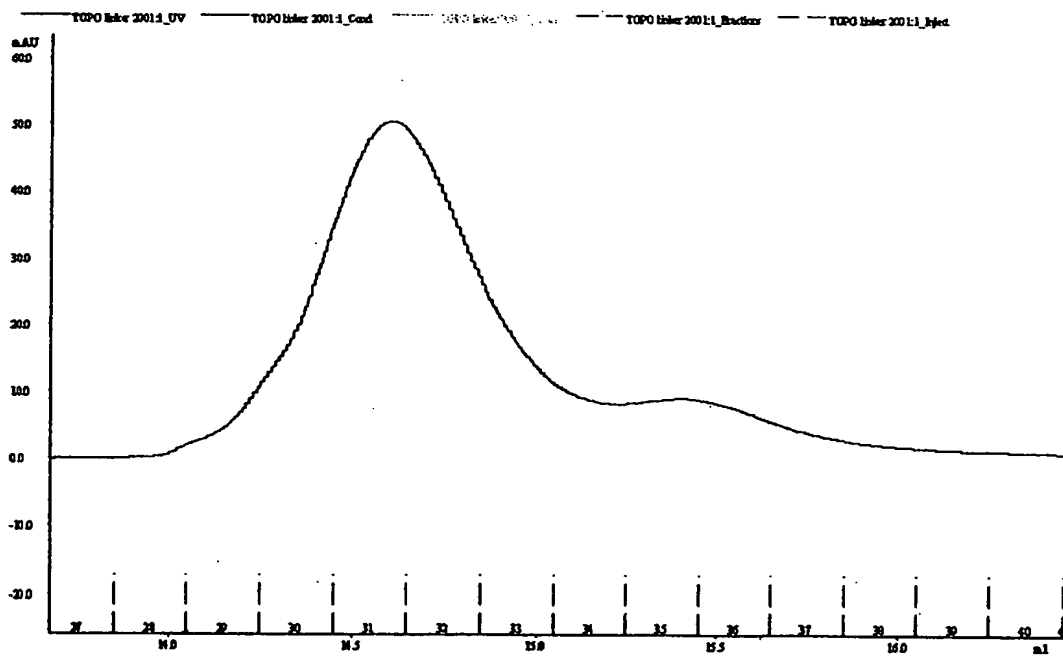


**FIG. 42**

**A.**

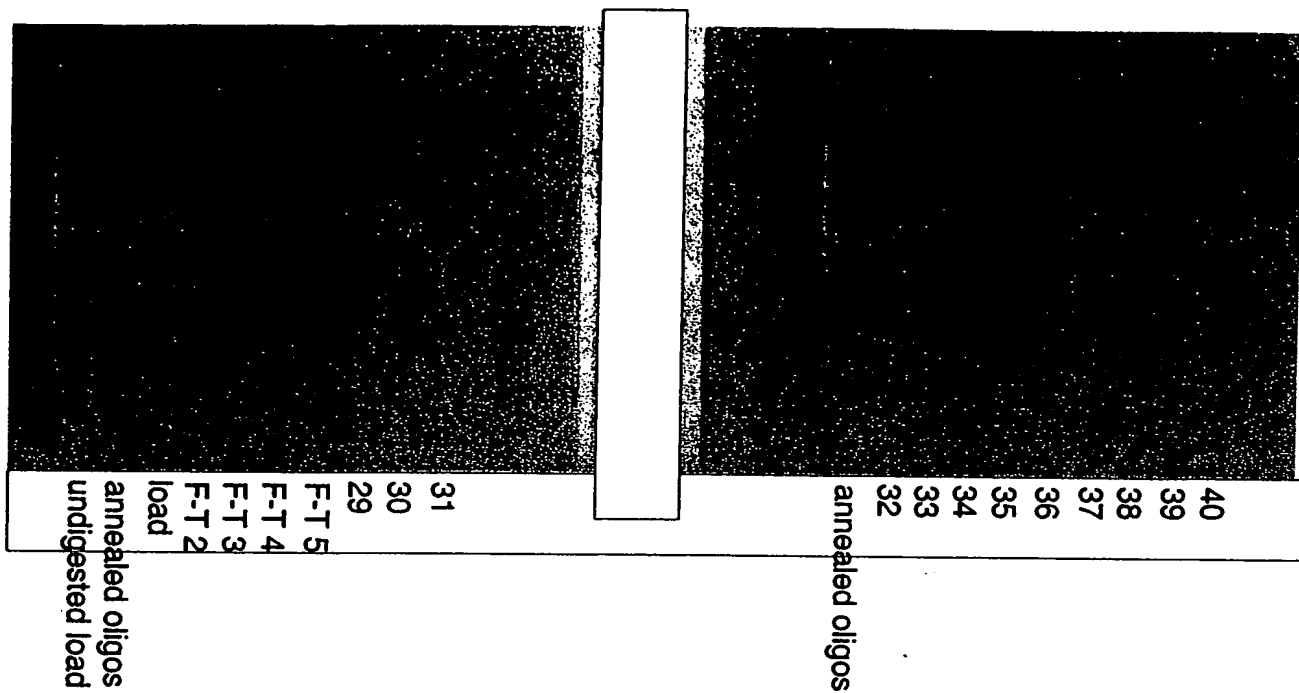


**B.**

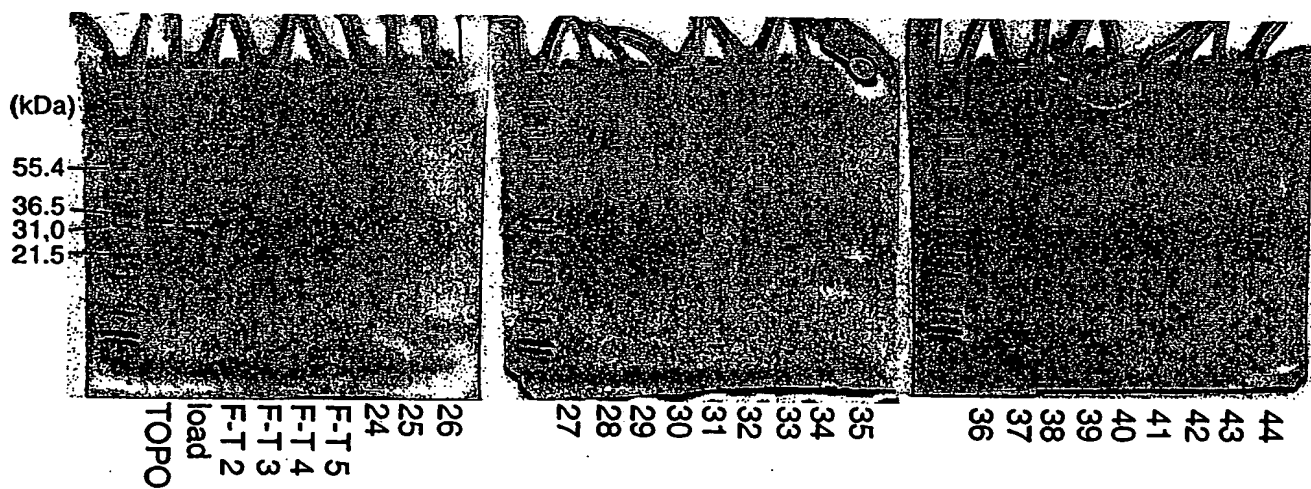


**FIG. 43**

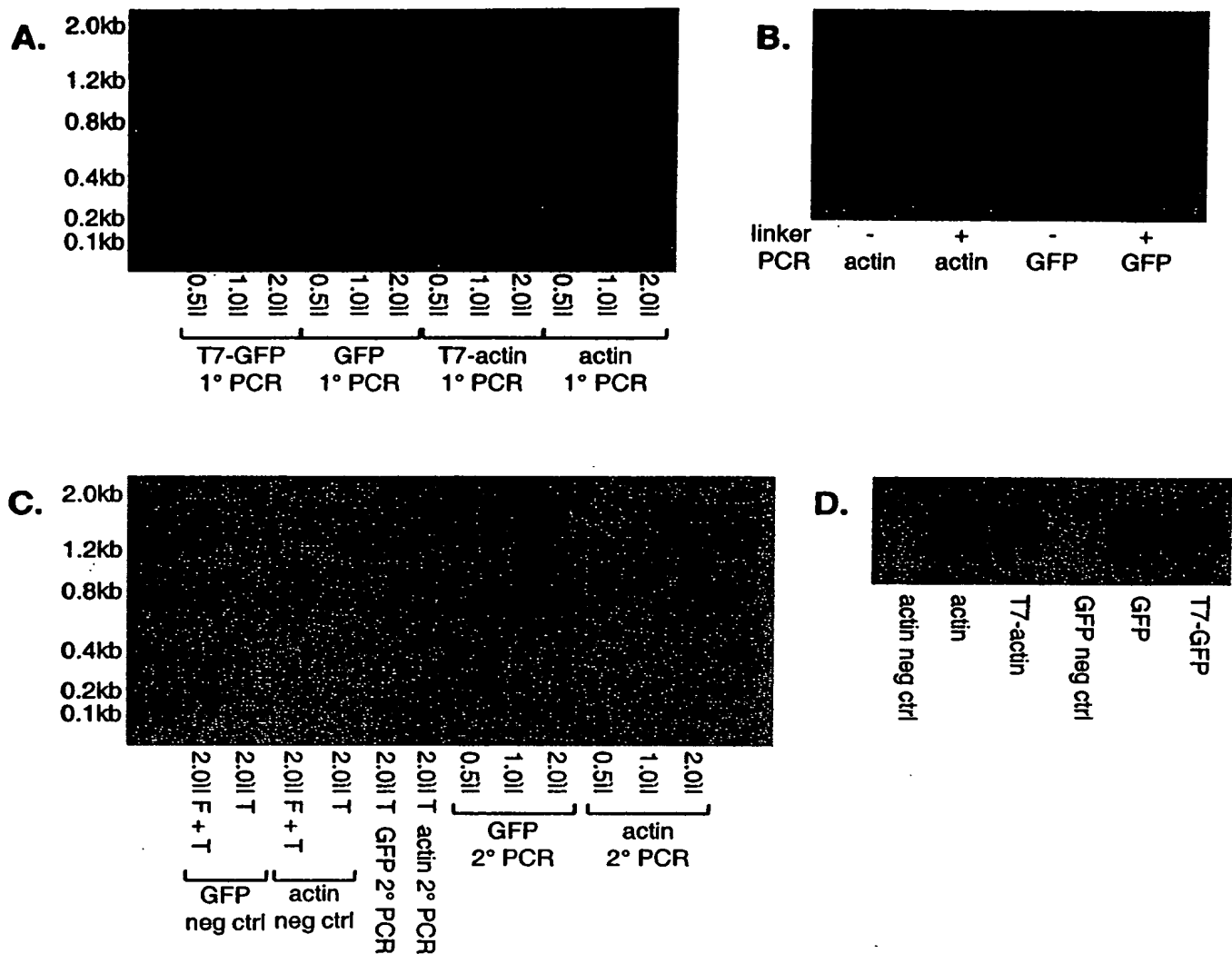
**A.**



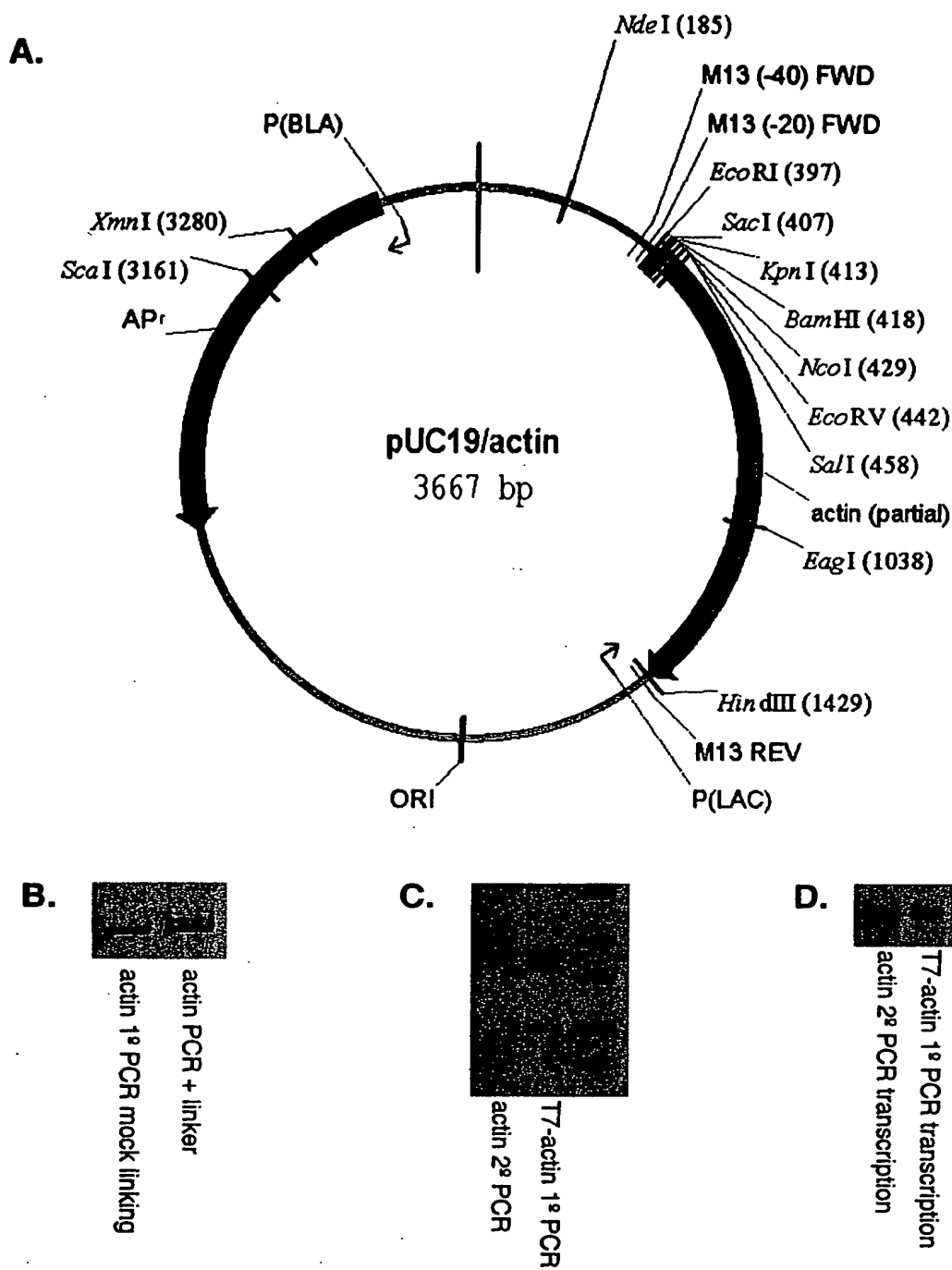
**B.**



**FIG. 44**



**FIG. 45**



**FIG. 46**